A Pilot Study of the Effects of the Way-to-Play Training Programme in Supporting Communication and Social Engagement of Parents and their Children with Autism.

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by

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Abstract

The Way to Play Parent Training programme (WTPPTP) supports parents of children with Autism Spectrum Disorder (ASD) by training them in the use of communication and social engagement strategies to use with their children during play. Three preschool children with ASD and their parents completed the day programme and the supporting three coaching sessions that made up the WTPPTP. Parents were encouraged to use the strategies during their everyday interactions with their child. Pre and post intervention video recordings were examined by two markers using The Play Observational Schedule and The Parent Play Questionnaires. These revealed an increase in the child's communicative initiations and responses towards their parents during play and an increase in social engagement skills. The pre and post intervention Parent Engagement Questionnaire suggesting there was change in the perception parents held of interacting with their children. All three parents reported a change in their ability to play and engage with their child during play. This pilot study indicates the WTPPTP may be an effective training programme for parents which facilitates improved quality of interactions during play with preschoolers with ASD.

Chapter One

1 Autism

1.1 History

Autism spectrum disorder (ASD) was first reported by Dr. Leo Kanner in the mid-1900s, who initially described a child with “autistic disturbances”, and who had little social interest. He further explained that the condition was inborn (Kanner, 1943; Volkmar, Chawarska & Klin, 2008). Kanner began to further define the disorder as being primarily linked with a lack of social skills, when compared with typically developing children. Kanner’s work has stood the test of time as many of the original descriptive characteristics continues to be a definite part of the diagnosis (American Psychiatric Association, 2013; Kanner, 1943).

The causes of ASD have been the subject of much debate. Originally ASD was thought to be linked with a mother’s failure to care and bond with her baby (Bettelheim, 1967). This contrasted with Kanner’s suggestion that infants were born with ASD. Recently, the ethology has been suggested as “a stable heritable phenotype resulting in a chromosome without alterations in the DNA sequence” (Berger, Kouzarides, Shiekhattar, & Shilatifard, 2009, p. 781). Although the exact cause of ASD remains uncertain, it is suggested there are multiple factors that underlie the disorder, including a large genetic component (Frans, Sandin, Reichenberg, Långström, Lichtenstein, McGrath & Hultman, 2013).

1.2 Diagnosis

Previously ASD was used as an board term for other developmental disorders that share similar characteristics such as, autistic disorder, Asperger’s disorder, childhood disintegrative disorder, Rhett’s disorder, and pervasive developmental disorder, (American

Psychiatric Association, 2013). However, the diagnosis criteria of the DSM-V no longer categorise some of these as part of ASD. The DSM-V now defines ASD as a neurodevelopmental disorder that is displayed through restricted and repetitive patterns of behaviour interests and activity, social skills and communication differences (American Psychiatric Association, 2013). People with ASD show an absence or reduced presence of social communication skills, such as an absent or reduced eye contact, little or no initiation of social interactions, joint attention, and appropriate understanding and responsiveness towards another's emotions. (American Psychological Association, 2013). People with ASD also show restricted and repetitive patterns of behaviour interests and activity. This is often displayed as a lack of flexibility or creative play and thought, reduced ability to move from one task to another and stereotypical behaviours.

The diagnostic criteria the DSM-V currently conceptualizes ASD as a spectrum, which is defined by the levels of support that a child requires in order to have a quality of life. The levels range from a low level of support (e.g. learning supports for mild difficulties) to the highest level of requiring extensive and significant support (e.g. residential level of care) (American Psychiatric Association, 2013). Individuals on the low level of support may have some social skills, such as social awareness and eye contact. They also have fewer challenges with restricted and repetitive behaviours, for example they may play with a toy car in stereotypical patterns, however, be able to move on to another activity with minimal support. For individuals on the high level of support, there may be a lack of social communication skills, such as verbal and nonverbal communication, an absence of all or most social skills and little awareness of other. There may also be an added presence of restricted and repetitive behaviours, as the behaviours become the child's primary focus and in inability for the child to progress past the behaviours.

Parents may seek professional advice when they recognise their child is experiencing some challenges, delays or is developing differently in comparison with other children. Parents commonly detect their child's delays in a range of domains and skills. For example, parents may notice there is a reduction in verbal communication or low social interest, compared to similar aged peers. This is commonly partnered with other challenges such as sleeping, eating, play and attention (Baird, Cass, & Slonims, 2003; Volkmar et al., 2008).

Children in New Zealand are commonly diagnosed with ASD by a psychologist or paediatrician, using the DSM-V. A common thought is that early diagnosis of ASD increases the opportunities to maximise learning of key social, communication and daily living skills, through early intervention (Baird et al., 2003; McConachie & Diggle, 2006).

1.2.1 Communication Characteristics of Children with ASD

The challenges of effective and quality communication have been identified as a dominant symptom of ASD. Communication impairments are a spectrum, low functioning children experience large challenges with comprehension, are nonverbal or have verbal skills but rarely use it. At the high functioning end of the spectrum some individuals communicate and use verbal language freely, however experiences challenges comprehending inferred meaning and/or have low social engagement skills. Some children experience delays with communication, as speech usually emerges later than typically developed children (Paul, 2008; Sicile-Kira, 2004). How a child communicates is unique to them, however, there are some similar communication characteristics among children with ASD. Children with ASD often experience difficulties with reciprocal communication (Greenspan & Wieder, 2006). For example, the presence of echolalia (the repetition of words without context) and self-directed speech (Paul, 2008) which can create a barrier to social communication. As many

children with ASD experience delays or absence of verbal communication, nonverbal communication can be the primary form of communication (Sicile-Kira, 2004). When a child is primarily nonverbal, parents often express their concerns about others ability to establishing quality relationships with their child with ASD, as the use of nonverbal communication is seen as a barrier to social engagement and relationships (Greenspan & Wieder, 2006).

1.2.2 Social Engagement/ Interaction

A lack or difficulties with socialisation is part of the diagnostic criterion of ASD (American Psychiatric Association, 2000). Social engagement for children with ASD has long been identified as being one of the biggest hurdles and one that lasts a lifetime (Bellini, Peters, Benner, & Hopf, 2007; Rao, Beidel, & Murray, 2008). Gresham, Elliott, Vance, and Cook, (2011) and Rustin and Kuhr (1999) defined social engagement as the performance in which there is a development of learned social behaviours, that leads to being socially accepted and the facilitation of positive interactions. This definition proposes that an interaction is a performance and in which both parties judge the other's performance. A high level of social awareness is required for a child to judge another person's social performance however, for children with ASD their social awareness is an area that is strongly impacted and is slower to develop than typically developing children. The difficulties that a child experiences with communication, social skills and stereotypical behaviours, impacts the amount of time spent socially engaging with other (Anderson, Moore, Godfrey & Fletcher-Flinn, 2004). This is not to say that they do not make attempts to socially engage with others however, these attempts may be small, subtle or poorly timed (Wolfberg & Schuler, 2003).

Low functioning children with ASD may appear distant or even unaware of others during social interactions. Other individuals may have minimal social interactions, however make no spontaneous attempts to initiate social interactions. High functioning children with ASD may be outgoing and initiate interactions freely, however their attempts to gain other attentions are often misplaced or unusual. There is often a lack of understanding or attention to the response.

Initiation of engagement invites another person into one's world, interests and thoughts. Children with ASD can experience challenges with initiating interactions and therefore sharing their interest and thoughts (Gutstein & Whitney, 2002; Stone & Caro-Martinez, 1990; Weiss & Harris, 2001). Research has identified that children with ASD initiate and respond to social initiations of others significantly less than typically developing children, which often results in a distant relationship with their parent/caregiver and their siblings (Bauminger & Kasari, 2000; Howlin, 2000). The skills required to have social interactions is a fundamental area of challenge for children with ASD (Rogers, 2000). Some argue that children with ASD lack the motivation to socially interact (Gustein, Burgess & Monfort, 2007; Wetherby & Woods, 2008). While others argue that individuals with ASD desire to have relationships and friendships with peers, they often lack the ability to progress past their own stereotypical behaviours, in order to have friendships and relationships (White, Scahill, Klin, Koenig & Volkmar, 2007).

In order for social engagement to be successful, it requires a back and forth exchange, where another person is welcomed into their world of ideas and emotions (Baker, 2000; Hart & Whalon, 2008; Wimpory, Hobson, Williams, & Nash, 2000). It requires flexibility within an interaction, however children with ASD struggle to be flexible within an

interaction and change their behaviours to suit different situations, plans or environment (Terpstra, Higgins, & Pierce, 2002).

As individuals with ASD have difficulty with friendships and are often socially isolated (Barkley, Anastopoulos, Guevremont, & Fletcher, 1991; Heflin & Alaimo, 2007), children with ASD have reduced opportunities for practice and development of skills needed for social engagement and communication.

Repetitive/ stereotypical behaviours also restrict social engagement for children with ASD. Some experience repetitive/ stereotypical behaviours to such a severe level that they are unable to tolerate changes in routines, people and/or environments. This can often be in the replacement of social interactions as they can often become fascinated with objects and repetitive patterns. A child engaging in self-soothing and/or repetitive behaviours creates a barrier to social engagement as their focus is on the behaviour. This also effects other's perception of the child as the behaviours create a barrier in the motivation to socially engage. Porges (2007) identified that when children with ASD engage in sensory, self-soothing and/or stereotypical behaviours, it helps the child feel safe in their environment. However, when fear or uncertainty is eliminated from an environment, children with ASD increase their social engage with those around them (Gray, 2012; Josefi & Ryan, 2004).

1.2.2.1 Imitation

Social engagement and imitation are closely correlated (Ingersoll, 2008). Children learn imitation from infancy, as they engage and communicate with their primary caregiver through imitation (Bower, 1977). However, children with ASD do not learn imitation the same way that typically developing children do. This has a flow-on effect of compounding

gaps in their development of early turn taking, eye contact and social communication to develop (Greenspan & Wieder, 2006).

1.2.2.2 Joint Attention

Joint attention can be defined as two people giving their whole attention to an experience, object, each other, or another person (Bakeman & Adamson, 1984; Wetherby & Prutting, 1984). This includes initiation and response to another person's initiation of joint attention (Bono, Daley & Sigman, 2004). Joint attention is viewed as being a large contributor towards communication, social development and language learning (Slaughter & McConnell, 2003; Wetherby, Prizant, & Schuler, 2000; Yoder & Warren, 2002). Typical developing children develop joint attention around 6 months and is well established by 18 months of age (Bakeman & Adamson, 1984).

Joint attention provides a platform for language development. When a child begins to develop language, a parent/caregiver typically labels objects/ toys which naturally draws the child's attention to the object and parent/caregiver. During this progress the child begin to learn the association between objects and the labels and two parties having the same focus (Akhtar, Dunham, & Dunham, 1991; Tomasello & Farrar, 1986).

Joint attention is delayed in children with ASD (Carpenter, Pennington, & Rogers, 2002; Wetherby, Watt, Morgan, & Shumway, 2007). It is common for children with ASD to display reduced face-to-face social engagement (Adrien, Faure, Perrot, Hameury, Garreau, Barthelemy, & Sauvage, 1991; Dawson, Toth, Abbott, Osterling, Munson, Estes, & Liaw, 2004; Mars, Mauk, & Dowrick, 1998), challenges with turn-taking (Bernabei, Camaioni, & Levi, 1998), and little or no joint attention (Lewy & Dawson, 1992; Mundy, Sigman, & Kasari, 1990; Williams, Whiten, Suddendorf, & Perrett, 2001). Joint attention is considered to be a

foundational skill that affects the development of social engagement for children with ASD. Joint attention is an important aspect of child development as provides the foundations for other social skills that are required to have successful interactions (Volkmar, Lord, Bailey, Schultz & Kim, 2004).

Cognitive factors are widely accepted as the reason why joint attention is a challenge for children with ASD. These include poor symbolic functioning (Baron-Cohen, 1997), challenges in higher-order cognitive skills (McEvoy, Rogers, & Pennington, 1993; Ozonoff, Pennington, & Rogers, 1991; Rogers & Pennington, 1991), and reduced ability to share one's ideas, thoughts and interests (Courchesne, Chisum, & Townsend, 1994; Dawson & Lewy, 1989). However, some argue many children with ASD do not comprehend why joint attention is important and therefore are not motivated to engage in it (Mundy, 1995; Mundy & Crowson, 1997; Mundy, Sigman, & Kasari, 1994). Mundy (1995) and Tomasello (1995) both argue the range of levels of initiating and joint attention that are displayed are correlated to the child's motivation. For example, Dawson et al. (2004) argues the reduction in spontaneous joint attention is related to children with ASD not experiencing enjoyment during interactions. However, some studies have shown that children with ASD can be supported with the development of joint attention. They identified that some children with ASD respond to other's joint attention initiation and initiate joint attention (Charman, 1997; Mundy et al.,1994). For children on the severe end of the spectrum overtime little change may be seen (Landry & Loveland, 1988; Stone, Ousley, Yoder, Hogan, & Hepburn, 1997; Wetherby & Prutting, 1984).

1.3 Friendships/Relationships

Social engagement facilitates the development of friendships and relationships. While children with ASD have a longing for relationships with friends and family (Howlin, 2000; Jennes-Coussens, Magill-Evans & Koning, 2006; Jobe & White, 2007; Jones & Meldal, 2001), they often fail to develop relationships appropriate to their developmental age. Difficulties with initiation and responding to social engagement and understanding and responding to social cues effects their ability to make friends (Wilkinson, 2011).

Children with ASD need structured support to develop quality friendships and relationships with their age matched peers. Social engagement and communication skills that develop naturally for TD children, do not develop intuitively or at the same rate for children with ASD (Attwood, 2007).

Research has shown that youth and adults with ASD experience the feeling of social isolation, loneliness and anxiety as a result of the specific challenges they face and the inability to progress past their challenges (Bauminger, Shulman & Agam, 2003; Church, Alisanski & Amanullah, 2000). Many researchers have identified that children with ASD have challenges with emotional regulation and therefore anxiety affects their social interactions.

For example, Erikson's (1950), Kim, Szatmari, Bryson, Streiner, & Wilson (2000) and Ozsivadjian, Knott, & Magiati (2012) argue that children with ASD, experience anxiety about how to socially engage with others and how to socially preform.

1.4 Impact of ASD on Families

The impact of having a child with ASD is significant for families. It requires sacrifices to personal and family matters, often due to the demands that ASD creates within a home

environment. The stress of parenting a child with ASD is a commonly examined topic and one that yields results that show the pressure and challenges they experience (Davis & Carter, 2008; Pisula, 2003). Although the diagnosis of ASD is given to a child, it also has a permanent effects on the rest of a family unit. It is therefore important to identify the family's needs and provide supports. Families of children with ASD are commonly impacted by stress, mental illness, relationships strain between parent and siblings, anxiety and isolation, which all lead into a less quality-filled life.

Stress is a common variable in the effects parent of a child with ASD. Researchers have identified a close link between a characteristics and severity of ASD and increased parental stress levels (Brobst, Clopton, & Hendrick, 2009; Tomanik, Harris, & Hawkins, 2004). As ASD has lifelong implications, parents experience lasting stress about the social acceptance and understanding ASD, the lack of ongoing quality and the child experiencing challenges for their entirety of their life (Sharpley, Bitsika, & Efremidis, 1997).

Associated with the ongoing stress parents experience, mental illness is common for parents of children with ASD (Hoppes & Harris, 1990). The significant demands of a child with ASD can create a high level of emotional and physical strain which places parents at risk to their psychosocial welfare (Gray & Holden, 1992). Olsson & Hwang (2001) conducted a study that identified 50% of the 216 parents of children with ASD, that completed their study, also experienced clinical depression. They compared parents of typically developing children and parents of children with ASD to fully grasp the challenges parents faced. They found TD 15-21% of the 214 parents with TD experienced clinical depression compared with parents who experienced higher levels of clinical depression. they also reported mothers of children with ASD had an increased level of depression in comparison to fathers. It is not uncommon for

mothers to feel more responsible for their child's success, as they are often the primary caregiver of children with ASD (Moes, 1992).

A factor within parenting a child with ASD is the feeling of isolation. Parents have often reported feeling that parenting a child with ASD means they are alone (Woodgate, Ateah, & Secco, 2008). Parents experiencing isolation is closely associated to social embarrassment, the lack of acceptance and general knowledge of ASD and support services for families, often leading to parents being reluctant to be involved in communicate or meet new people (Gray & Holden, 1992; Rodrigue, Morgan, & Geffken, 1990; Sanders & Morgan, 1997). Having relationships or involvement in a community is an important aspect to parenting as this is often a place of support from other parents. However, when parents with ASD experience stress that is related to social acceptance or embarrassment, isolation is becomes more apparent (Bailey, Wolfe, & Wolfe, 1994).

Social isolation has been discovered to be coping strategy for many parents of a child with ASD (Pottie & Ingram, 2008). Often the lack of awareness from wider family members and society about ASD leads to a loss of relationships with friends and family members. The demands of children with ASD and the increased stress that is associated with it, takes away from quality time with friends and family. (Altiere & von Kluge, 2009; Knapp, Romeo, & Beecham, 2009). Mothers of children with ASD report challenges with relating to mothers of typically developing children and may avoid taking their child to social gatherings due to embarrassment over potential disruptive behaviours. These combined factors often result in mothers staying home and isolating themselves.

The lack of societal support for parents of children with ASD, creates an increased need for martial support. However, research has identified that there is often a lack of support

between parents. The continual communication breakdowns, stress and challenges of dealing with challenging behaviours from their child affects the relationship between the parents. There can be a lack of knowledge on how to support each other. This often leads to marital dissatisfaction and in some cases divorce (Brobst et al., 2009; Freedman, Kalb, Zaboltsky, & Stuart, 2012; Hartley, Barker, Seltzer, Floyd, Greenberg, Orsmond, 2010). Parents of children with ASD have found to have twice as high rates of divorce compared with families with typically developing children (Hartley et al., 2010). The ongoing challenges of ASD highlights the importance of supporting parents and families with a holistic perspective.

1.5 Play

Play is often thought of as simple phenomenon; however, its complex nature is often unrecognised. Play comes naturally to typically developing children, however for children with ASD, play lacks complexity and often will remain stagnant without intervention.

1.5.1 Defining Play

Play can be challenging to define as play at its core is diverse, flexible and based on the individual. Play can be defined by an absence of rules and pre-established ideas, instead it consists of variations and flexibility. Play consists of a child-directed and initiated action or activity, where there is an absence of anxiety or pre-determined actions or outcomes. It consists internal motivation and guidance, when a child feels the safety to express their imagination.

Despite play being defined as flexible and an absence of outcomes, sport is often perceived as play. However, the very nature of sport relies on one maintaining the rules, in order for a game to run smoothly and with order (Pellegrini, Blatchford, Kato & Baines, 2004). However, Pellegrini et al. (2004) argues sport is a form of play, as play consists of a variety of actions occurring. Play is considered to be a human right alongside privacy, freedom of expression, and safety from abuse or neglect (Child Rights Information Network, 2012). When a child doesn't engage in free play, it hampers the child's development of emotional, social and cognitive skills (Frost, 2010; Louv, 2005).

1.5.2 Play and Child Development

Play has been argued to be one of the most important aspects of child development (Perry, Hogan & Marlin, 2000). Play allows relationships to develop, while also strengthen

emotional regulation, such as a monitoring and easing stress. Play supports cognitive development as it provides the foundations for other skills, such as communication (Perry & Szalavitz, 2006). Play also facilitates the development of social skills such as the understanding of other's emotions, anticipating how others may react and what is socially appropriate (Tuber, 2008; Wolfberg, 1995; 2009). During play, a child learns how to interact, relate and practice interactions with people, in different situations and experiences (Tuber, 2008). It allows a child to understand their world, experiences and desires, through the creation of novel scenarios (Corsaro, 2003).

Play also provides a child a time to process situations and emotions and play through different scenarios (Segal & Adcock, 1981). It allows for an outward expression of one's inward emotions and thoughts. Landreth (2012) said "play represents the attempt of children to organize their experiences and may be one of the few times in children's lives when they feel more in control and thus secure" (p. 16). This is often when symbolic play emerges as a child can express their inward emotions through actions. This highlights the importance of nondirective play, as children are not restricted on their expression of their experiences (Landreth, 2012).

1.5.3 Stages of Play

Psychologist and researcher Mildred Parten defined the purpose of play as primarily to relate and connect to others. She theorised that children go through six stages of play development, in order to achieve this goal. The stages of play are defined by how socially related they are. For example, stage one consists of a child observing play and playing with toys without social connections. Children during early development, may progress and regress within the stages (Parten, 1932). Parten (1932) noted that as a child may progresses

through the stages of play as they gain a greater social awareness therefore reflecting in the type of play a child display (Parten, 1932). She defined the six stages as:

- Unoccupied Play: A child will primarily observe play.
- Solitary play: A child will play without another child.
- Parallel play: Despite potential closeness, a child will play adjacent to another child. The child makes no attempt to interact.
- Associative play: The first social stage of play. A child will share ideas and objects, however, will not necessarily play the same thing.
- Cooperative Play: A child has a greater social awareness and seeks social engagement and play with other children. Play becomes collaborative and share the same purpose.

Based on Parten (1932) original definition of the different types of play, The International Classification of Functioning, Disability and Health Children and Youth Version (2007) established and defined four categories of social play as:

- Solitary play: According to Parten (1932) solitary play emerges between 0-2 years of age. This is where a child occupies oneself in meaningful, lasting social engagement in activities with objects, resources, or games. For example, play with toy cars without any social engagement.
- Onlooker play: According to Parten (1932) onlooker play emerges between 2-2.5 years of age. Onlooker play is where a child occupies oneself by meaningful observing the activities of others however, without joining in the activities. For example, a child may watch other children play with toy cars, despite being

interested or playing with toy cars themselves, they will not play or initiate play with the other children.

- Parallel play: According to Parten (1932) parallel play emerges between 2.5-3 years of age. Parallel play is where a child engaging in meaningful, lasting social engagement in activities with objects, resources, or games in the presence of other persons also engaged in play, but not joining in their activities. For example, two children may be playing alongside each other, with the same or similar toys and manner, however there is a lack of social engagement between the two children.
- Shared cooperative play: According to Parten (1932) cooperative play emerges between 4-6 years of age. Cooperative play is where a child joins other in lasting social engagement in activities with objects, resources, or games with a mutual goal or purpose. A child has a greater social awareness and seeks social engagement and play with other children. For example, a child may seek to join in with a group of children playing hopscotch.

Parten (1932) six stages of play created much debate about the different types of play and provided the foundations for others to define play. For example, Piaget (1945) had a developmental theory towards play. The theory took a cognitive approach which defined play as the assimilation of new experiences and the integration of those into the child's behaviours and thoughts. He further expanded on Parten's (1932) stages of play and categorised the different types of play as -

- Practice play: Practice play emerges between 0-2 years of age. It is primarily where a child engages with play for sensory purposes and for the development of fine motor

skills. For example, what a child can see, hear, physically feel and experiment with objects.

- Symbolic play: Symbolic play emerges at 2 years of age (Wolfberg, 2009). Symbolic play is when a child uses an object in the form of something else. For example, a child using a block as a car.

- Play with rules: Play with rules emerges between 7-11 years of age. It is defined by rules and roles of each player or person involved. For example, when two or more children play "mums and dads". Each person has a defined role.

1.5.4 Play Development of Children with ASD

Play follows an atypical development and pattern for children with ASD (Thomas & Smith, 2004; Wolfberg, 2009). Unlike typically developing children, children with ASD spend less time engaged in play, as play is largely a social, communication and cognitive task and children with ASD experience challenges with these areas of development (Lewis & Boucher, 1988). The result of children with ASD spending less time engaged with play is of high concern, as play is an important aspect of development for social, communication and cognitive skills. Low functioning children with ASD rarely are seen to engage with pretend and/or symbolic play, for example their ability to use a block as an aeroplane (Frost, Worthman, & Reifel, 2012; Wolfberg, 2009). The skills required to imagine an object representing anything but that exact object is an area that children with ASD struggle with. Due to the lack of flexibility a child with ASD has, they can often appear to be unhealthily attached to an object or toy (Sicile-Kira, 2004). Repetitive actions are commonly performed on these objects or toys, such as relentlessly stacking or lining objects up or clapping, arm flapping or rocking (Frost et al., 2012). When stereotypical behaviours become the primary

focus, it restricts a child with ASD from progressing past early stages of play and engaging in social interactions (Frost et al., 2012). The presence of stereotypical behaviours creates challenges when attempting to play the child, and parallel play becomes the primary play type (Bauminger, Solomon, Aviezer, Heung, Brown, & Rogers, 2008).

Children with ASD typically display parallel or solitary play as the social component of play is absent. The social implications of being isolated and not engaging or relating to others during play has been shown to have consequences in other areas for children with ASD, such as the absence of developing functional play (Williams, Whiten, Suddendorf, & Perrett, 2001) and development of basic social play behaviours (Jordan, 2003). Children with ASD are commonly thought to lack symbolic play, as it requires creative and imaginative thought in order to play in a symbolic manner (Hobson, Lee, & Hobson, 2009; Wolfberg, 1995). It has been thought that children with ASD are unable to engage in symbolic play due to an inability to create unique thoughts that allow symbolic play to emerge and do not have the motivation and ability to shift from a pretend space to the real world (Hobson et al., 2009). Symbolic play begins to emerge by 2 years of age, however if a child with ASD develops symbolic play, this usually emerges later than 2 years (Wolfberg, 2009).

Anxiety has been argued as a contributor towards the lack of social engagement and play in children with ASD (Ozsivadjian et al., 2012). Research has identified when a child with ASD feels anxiety and or judged, play diminishes (Burghardt, 2011; Gray, 2012). Therefore, restricting a child's exposure and practice learning to play and develop language and socials skills (Lang et al., 2009; Sigafoos et al., 1999).

1.6 The Effects of Parental Perceptions of ASD

Parental perception of their child with ASD is influenced by a number of different factors, including general knowledge about ASD, what is developmentally normal, the effects they have on their child's development, intervention and support (Jensen, 2002; Stipek, Milburn, Clements, & Daniels, 1992).

It is vitally important parents have positive perceptions of interactions and play with their child with ASD. Gottman, Katz, & Hooven (1996) identified that parents' perceptions, beliefs and attitudes had a direct influence on interaction and communication with their child with ASD. Parents have a pivotal role to play within a child with ASDs development., If their perceptions are not positive they may avoid playing and interacting with their child, which may further hamper their child's development. The first three years of life is a crucial time for cognitive development. This development is dependent on a child's feeling of safely, consistency and being cared for by their caregivers (Shonkoff, 2007). These feelings are often taken for granted, as they are seemingly a simple thing. Positive play and interactions contribute toward a child feeling cared for and safe therefore if a family is experiencing challenges around playing, interacting and consistency, this may affect the child's feelings of safety.

Play and interactions with a child with ASD has been a focus of much research, however parental perceptions about play and interactions is an evolving area of research.

Research has identified that children with ASD children have improved quality of play when their parent had greater awareness of their needs and how to support them (Girolametto, Hoaken, Weitzman, & Van Lieshout, 2000; Kasari et al., 2006; Trawick-Smith & Dziurgot, 2011). However, mothers of children with ASD have expressed their feeling of guilt at

challenge and inability to know how to support quality social engagement (Freeman & Kasari, 2013; Kasari et al., 2010). The perceived inability by primary caregivers to create meaningful and fun social engagement, leads to ongoing feeling of guilt, self-criticism and envy of mothers who easily engage with their child during play (Freeman & Kasari, 2013; Solomon, Van Egeren, Mahoney, Huber, & Zimmerman, 2014).

Parents' lack of knowledge on to have quality social engage and play can lead to parents using a more directive approach towards toward play and social engagement. In 2008, Fisher, Hirsh-Pasek, Golinkoff, & Gryfe conducted a large study with 1130 parents, examining their views on unstructured and structured play with their 5-year-old children. A survey was used to identify how the parents perceive play, the link between play and development, as well as their perception of activities used to play. The results showed that parents believed structured and formal activities where be more beneficial for their child's development. Mothers were also found to spend more time playing with their child when they perceived play as being beneficial for development. Jensen (2002) also found similar results in 3000 parents of children with ASD between the ages of 0-12 years. They sought to identify and understand perceptions and attitudes towards play. The results showed that parents perceived structured and scheduled play to be more beneficial than unstructured and flexible play, as they believed that it prepared the child for adulthood (Jensen, 2002). The belief that education and structure should be partnered with play often results in parents feeling the need to create play routines and find themselves having strict and structured play. However, the effect of the belief was found to have reduced time spent playing, compared with parents who have a natural flow to their play (Jensen, 2002).

Pinchover & Shulman, (2016) conducted a study with 12 mothers and 11 preschool teachers of children with ASD, using semi structured interview methods. The parents and teachers were video-recorded playing with the child with ASD and then asked questions about the interactions. They found that mothers of children with ASD had four perceptions towards play. These included the playful viewpoint, the goal focused viewpoint, the integrated outlook, and the seeming incompetence outlook. These categories relate to how mothers perceived their role in play with their child, and that there is variation across parent-child dyads in how parents play with their child with ASD. The sample size was small, were only verbal males and therefore cannot be generalised to the wider ASD population.

When parents are supported on how to interact and play with their child with ASD, this positively affects their perceptions and motivation, which leads to increased time spend playing (Fisher et al., 2008; Jensen, 2002; Stipek et al., 1992).

This facilitates natural development to occur through opportunities for a child ASD to practice social, communication and cognitive skills, such as problem-solving skills (Suma, Abrams, Bakeman, Robins, 2016). When parents believe they are able to engage playfully with their child with ASD, they feel more positive about their parental role (Román-Oyola, Figueroa-Feliciano, Torres-Martínez, Torres-Vélez, Encarnación-Pizarro, Fragoso-Pagán, & Torres-Colón, 2018). Therefore, supporting parents to interact and play more successfully with their child with ASD is critically important.

1.7 Culture and Parent-Child Interaction

Parent-child interactions vary in form, type and manner, for every dyad. Culture has been identified as a factor that influences parent-child interaction (Crago, 1992). A large difference is between Asian (e.g. from India, Korea, Vietnam, or Philippines, etc) and Western Caucasian (e.g. North and Central America, Britain, NZ etc) parent-child interactions. Each culture has unique values and beliefs which influence interactions, communication patterns and engagement (Jose, Huntsinger, Huntsinger & Liaw, 2000). For example, Asian parents have been reported to believe children are unable to learn from their own situations and experience, and instead learn directly from the adults. They therefore use a more directive approach to parenting and mother-child interactions have the purpose of teaching (Lasky & Klopp, 1982). However, Western Caucasian parents have a more facilitative and child centered approach towards parenting (Johnston & Wong, 2002; Santos & McCollum, 2007). These parents believe interactions should be of mutual enjoyment and therefore follow the child's lead more often. They believe the child learns effectively in natural interactions through parents modelling and expansions their child's communicative attempts (Johnston & Wong, 2002). Research has shown that responsive interactions, such as those displayed by many Western Caucasian parents, are more supportive of language development, compared with a more directive style of interaction (Tamis-LeMonda, Cristofaro, Rodriguez, & Bornstein, 2006).

The amount of time parents spend interacting is also influenced by cultural values. For example, Indian mothers spend less time interacting with their child compared to Western Caucasian mother (Simmons & Johnston, 2007). The volume of language directed to a child

has been linked to their child's language skills and vocabulary size (Hart & Risley, 1995; Tamis-LeMonda et al., 2012).

In many cultures, religious beliefs influence how children are raised. For example, many religious cultures emphasise that children's lives are predestined (Omu & Reynolds, 2012; Rao, McHale & Pearson, 2003). This can impact intervention, as there is a belief that if it is God's will then for a child to have a disability, then there is no need to change the child. Conversely, many Asian families also carry the belief that a child's achievements or failures are a reflection on the family identity and reputation. Therefore, there is added pressure for a child to achieve success as it directly reflects on the family (Ng, Pomerantz & Lam, 2013). This creates challenges for parents to actively seek intervention/ supports for their child and for themselves as they may be ashamed to reveal the extent of their child's disability.

Many cultures primary places a larger importance of males and mother-son relationships than Western Caucasian cultures, such as a mother may spend more time playing, supporting and focusing on the male. Therefore, a family unit is more likely to prioritise the success of males rather than females in a family (Kakar & Kakar, 2007). As a result of an emphasis on mother-son relationships in some cultures, many fathers of children with ASD may not see it as their role to play with their child. Many cultures place emphasis on male dominance / status in the family. This may mean that fathers would not naturally follow their child's lead in play or conversation. This can create challenges when providing play based intervention for some multicultural families.

1.8 Programmes and Services

Intervention for and with a child with ASD can take many different forms, as every individual child with ASD has a unique set of needs, characteristics, behaviours and strengths, which shapes the intervention they require (Corsello, 2005; Rogers & Dawson, 2009). Parents also influence the type of intervention, for example some parents may want to be actively involved and thus intervention has a parental training or involvement. However, many parents express their belief that intervention should be left to 'professionals' and therefore it takes a clinician lead approach. To date, there is no single form of intervention that has been identified as being the most appropriate or effective for children with ASD (Tachibana, Miyazaki, Ota, Mori, Hwang, Kobayashi, & Kamio, 2017).

For a child with ASD to benefit from intervention/ support, the focus needs encompass the goal of functional communication and active engagement, in a number of different contexts that are meaningful for the child. This supports success for a child in their everyday life (Carnahan, Musti-Rao, & Bailey, 2009).

Some of the different intervention types and different ways intervention can be carried are discussed as following.

1.8.1 Clinician Lead / Behavioural Intervention

A clinician lead intervention is often referred to as a traditional form of intervention, as it is based on behavioural theory of learning. The theory believes that all behaviours are a direct result of one's experiences. Therefore, a person can be trained to change their behaviours when specifically conditioned to. The theory uses two types of conditioning to change a person's behaviours, one being classic conditioning and the other as operant conditioning. Classic conditioning consists of the associations of a specific stimulus and a natural occurring

response. For example, when a child sees their favourite food, it triggers a salivation response. Operant conditioning is the idea that through reinforcement a behaviour can be changed as a person begins to associate positive response with the desired behaviours and a consequence for negative or undesired behaviours. The change occurs when antecedents are manipulating through the consequences that behaviour, which then leads to the change and therefore the desired behaviour emerges.

Behaviour theory has the belief that development occurs best with repeated exposure and practice of a skill, partnered with association and reinforcement (Skinner, 1963). Interventions that include a behavioural theory focuses on what behaviours a person is currently lacking or needing to acquire and targeting them though conditioning (Berkell Zager, Cihak & Stone-MacDonald, 2017).

Behavioural interventions lead by clinicians have been shown to have positive communication and social engagement results for children with ASD (Barlow & Durand, 2014). One of these approaches is Early Intensive Behavioral Intervention (EIBI). The approach targets multiple skills at the same time and the reduction of disruptive skills through reinforcement, prompting and activity-based trials (Green, Brennan, & Fein, 2002). The approach uses a 1-1 approach with specific long- and short-term goals, partnered with the principles of developmental norms. The approach uses the gradual implementation in different environments, in order to support generalisation, which is a strength of the intervention. Although the intervention takes a 1-1 approach, it also transitions children to a group setting. As children with ASD benefit from structure and increased exposure, the approach typically includes a large amount of time spent with a child (approx. 20-30 hours per week) (Green et al., 2002). In two meta-analysis of EIBI, it was identified that the use of

the approach for children with ASD had positive results, compared with typically developing controls (Reichow & Wolery, 2009). In another meta-analysis of the approach, Eldevik, Hastings, Hughes, Jahr, Eikeseth, & Cross (2009) identified across 34 studies that there was a moderate and large effect of the intervention for children with ASD, therefore providing support for the use and implementation of the approach.

Another accepted clinician lead approach is Applied Behavior Intervention/Analysis (ABA). The approach uses principles of a child having motivation to learn a new task or skill. The approach is a systematic way of identifying an individual's behaviours, what changes might be beneficial and using the most beneficial and effective methods to facilitate the changes. For example, a clinician may seek to improve the frequency of a child's eye contact. This would be facilitated by the clinician being at the child's level and holding an object to their face, in order to draw the child's attention to the face and then providing a reinforcement when the desired behaviour occurred. The approach uses techniques of breaking down tasks or activities into smaller steps, which allows the gradual acquisition of the desired skill. The approach uses the theory that children with ASD experience challenges with learning through imitation and listening, therefore require more explicit teaching. Spreckley, & Boyd (2009) conducted a systematic review of ABA and identified that four randomized clinical studies did not have significant results for cognitive or language outcomes. However, they concluded that studies that use ABA lack consistency in their inclusion criteria, sample sizes and the use of controls. However, in a systematic review conducted by Granpeesheh, Tarbox & Dixon (2009) found the use of ABA to be effective and have positive results with the acquisition of language and engagement skills, when implemented with a high dosage (30-40 hours per week).

Many children with ASD thrive in structured environment with clear expectations or goals, therefore a more directive clinician lead intervention allows a clinician to create an environment where the child may thrive. A clinician lead intervention has a focus supporting the acquisition of communication and social skills through the use of specific strategies and goals (Prizant et al., 2003). The approach has a number of weaknesses, one significant weakness is the researched evidence that children with ASD learn best in the context they are taught in, therefore lack the natural ability to generalise taught skills in one environment to another. Therefore, a clinician creating an environment that might not necessary be the most natural or familiar to the child. However, in recent years, even behavioural intervention has evolved have more a natural and child lead approach, in order to support the generalisation in natural contexts. To support generalisation the clinician may begin to vary the context and the objects that are used within therapy. This is often similar to the those that are in the child's natural environment and encourage and reward self-monitoring and correct.

Many parents report that they dislike the directive approach to intervention as while their child may have progressed, they are unsure how to interact, communicate and parent their child with ASD. As research has identified that parents experience anxiety and pressures around socially engagement and communicating with their child, a clinician lead approach can leave the parent out of the situation and therefore they feel a lack of support. This is when a parent lead or natural approach to intervention may be indicated.

1.8.2 Naturalistic Interventions

Naturalistic approaches use elements of behavioural interventions, such as graduated prompts and differential reinforcement, but deliver the intervention in naturally occurring

interactions and environments with natural communication partners. Naturalistic interventions use seemingly incidental teaching opportunities within a child's natural and normal routines and interactions, which support generalization from the beginning (Pierce & Schreibman, 1995). Naturalistic interventions are based on both behaviour theory and the transactional theory of language acquisition. A This theory incorporates the view that language development is facilitated through ongoing supportive interaction between a child and their parent (Conti Ransden 1990, Warren and Yoder 1993).

These approaches are based on both behaviour theory and the transactional model of language acquisition. The latter model assumes language learning is facilitated though interactions as adults adjust language and interaction type to the child, which is typically based on the observed responses. Naturalistic interventions support social interactions between a child with ASD and their friends and parents/caregivers (Morrier, McGee & Daly, 2009). These approaches are flexible and are based on what the child is interested in, for example the clinician or adult seeks to increase exposure to a stimulus through the use of books or objects. If the child responds positively, the adult will typically expand and shaped into desired response. If not, an alternative way to engage the child is trialed (Paul, 2007).

A commonly used naturalistic intervention is Pivotal Response Training. This approach assumes that there are pivotal behaviours which are essential to a child's ability to learn to communicate. Pivotal skills are thought to be, but not limited to, motivation, joint attention, responding, and initiation (Koegel & Koegel, 2006). approach facilitates generalisation and maintenance through the use of naturalistic methods.

Hardan et al. (2015) demonstrated using a multiple baseline design, when parents used Pivotal Response techniques there was an increase in expressive communication for

children with ASD. the results were maintained at post-treatment relative to a control group. The control group received psychoeducation intervention, which consisted of general teaching about ASD. The intervention group were specifically focused on teaching parents to use strategies of following the child's lead, using natural prompts and reinforcement.

Koegel et al. (2012) investigated in 3 participants Pivotal Response Treatment. They used a multiple baseline design with a social motivation hypothesis. They taught strategies of letting a child lead an activity, but also the importance of varying a test and prompts and reinforcement. Although the study had a small sample size, the results displays each child increased social engagement. The study defined social engagement as a presence of enjoyment, interest with continuing to engage and increase in eye contact. The study identified that the results were maintained 2-6 months after the intervention.

Another naturalistic approach is the Integrated Play Group model (IPG), which is based on social constructivist theory. The theory is based on the idea that development is reliant on interaction with others. That through interactions children make discoveries through situations, experiences and interactions with others, which is built upon throughout their lives (Schwandt, 2001)

focuses on development of social and symbolic play for children with ASD. The approach is run by trained professionals of IPG and ASD. The model assesses children with the focus of identifying how the professionals can set up activities and the environment that will facilitate development effectively. The approach typically consists of frequent play groups for 30-60 minutes, where the professionals act as direct guides and support for the children during play. Wolfberg & Schuler (1993) investigated the use of IGP in a school setting. They sought to investigate whether the approach would result in an increase of functional and

symbolic and social play with children with ASD. The results demonstrated that the children developed in their use of functional and symbolic object play, as well as social play. However due to the small sample size and the lack of a control group, the results needed to be interpreted with caution.

Lane, Lieberman-Betz, & Gast, (2016), conducted a meta-analysis of the approach. They identified 24 studies that used a naturalistic intervention that supported spontaneous language with preschool children with ASD. The majority of the research were single case studies or had a small number of participants. A large portion of the studies lacked adequate rigor that is required to evaluate it effectively and accurately. In conjunction with the small sample sizes, there was overall a lack of treatment fidelity, therefore it is uncertain whether the intervention was employed as planned. Despite the identified limitations, the review highlighted 6 studies that had adequate rigor. The 6 studies demonstrated a significant increase in spontaneous social communication.

1.8.3 Child Lead Intervention/ Socio-pragmatic

A child centred interventions approach allows a child to spontaneously initiate and engage with intervention activities and tasks, as it facilitates the child having a more active decision and role within the intervention goals (Sweeney & Landreth, 2011). The intervention approach is a more natural approach than a clinician lead and naturalistic interventions. The approach uses the theory of developmental psychology by Piaget (1952), Bruner (1978), Vygotsky (1962) and others, that emphasises that active participation of a child within intervention, in an environment that is meaningful to them, is beneficial for children with ASD as this is when they learn best (Kuhl et al., 2003).

The defining differences between a clinician directed and a child lead approaches are who is in control. In a child lead approach, the adult follows the child's lead in terms of topic / play. Within the child's play, the clinician models the desired skills, however without requiring the child to respond. In contrast, in a clinician directed approach, a child is expected to respond with a target behavior predetermined by the clinician.

A child directed approach to language intervention relies on a child's ability to learn language implicitly through social interactions. This style of approach therefore seeks to increase the child's exposure to modelling of skills or language forms at the child's level. Clinicians therefore provide a language rich environment, through responding to the child's actions / words. Techniques used include waiting, following the child's lead, modelling communicative behaviours, imitating what the child says or does and expanding / extending what the child says or does.

A child lead intervention often focuses on the relationships between adults and the child. The benefit of them means that close relationships between parents and a child with ASD enhances development (Yoder & McDuffie, 2006). This suggests the importance of supporting parent/caregivers with their relationships with their child.

A commonly accepted child lead intervention was developed by Carl Rogers (1952). He established the foundations of the Child- Centred Play Therapy (CCPT), which links play to communication. He stated the primary role of the interventionist is to partner with the child, so a relationship can be established, and the child can discover the play environment and display emotions of enjoyment alongside the interventionist (Guerney, 2001). The purpose of CCPT is for the child to feel supported and safe to express themselves within the play environment, which leads towards confidence and eventual natural development to

take place (Landreth, 2012). A core belief of CCPT is that the child will develop and change on their own (Landreth, 2012), therefore creating some challenges for interventions and parent/caregivers, as there is often a seemingly lack of techniques, goals or specific targets during intervention. However, the unique nature of CCPT allows children with ASD to be meet developmentally and within their zone of proximal development. Although some research state that CCPT should not be used with children with ASD, the core foundation of the intervention focuses on the challenges that children with ASD have (Gray, 2012), such as communication and socialisation and how to develop these areas.

Research on CCPT and children with ASD is limited and lacked strong evidence to suggest the effectiveness of the approach. Kenny & Winick (2000) investigated a two-phase study, using CCPT and a directive technique, with a girl with ASD. The results showed the child responded better, emphatically, to the CCPT intervention. It is also interesting to note that the child regressed with the progress made during the CCPT intervention. Josefi & Ryan (2004) completed research with a boy with ASD, that specifically measured behaviours of closeness, relationship, independence, and play types. Much like Kenny & Winick (2000) results, they identified CCPT had positive results in independence, joint attention, attentiveness, relationally, and development in symbolic play. Morgenthal (2015) also found similar results in the study of a girl with ASD using CCPT as the primary intervention. Despite the positive results, all the studies had a single participant, thus the results cannot be generalised to the wider population.

The approach has many strengths, one being harnessing the child's natural motivation, attention and interests. This style of approach is also delivered in naturalistic contexts and

therefore is supportive of generalization of functional skills. However, the approach has limited and strong evidence to suggest its long-term effectiveness.

1.8.4 Parent Implemented Intervention for Children with ASD

Children with ASD often benefit from intensive supports, as there is a link between repeated exposure and dosage to support the acquisition of skills (McKenney & Bristol, 2015). In particular clinician lead approaches have been shown to be effective at high intensity (30-40 hours per week. However, intervention programmes are not universally publicly funded. As parents with ASD often report being financially strained (McCann, Bull & Winzenberg, 2012) parent implemented interventions can be a popular option. These approaches focus on the parent as the person who spends the majority of their time with the child, and trains them to be the primary interventionist. This style of service delivery provides greater intensity of support for the child in the child's natural daily environment (Wong & Kasari, 2012).

Parent training can be defined as "indirect service delivery in that the practitioner trains parents to apply treatment to children" (Shriver, 2008, p. 26). Simply put, it is a means of parents being supported and taught on how to use intervention techniques, within a child's natural environments and interactions (Kazdin, 1997).

Parent training was first trialled in the 1960s, by researchers Williams (1959) and Hawkins, Peterson, Schweid, & Bijou (1966), who identified that when parents were taught operant extinction procedures resulted in reduced challenging behaviours in their children. Following the positive and significant results utilising this method of service delivery This

Patterson, Smith, & Mirenda (2011) completed a systematic review of parent training programmes, that focused on social and communication skills, for children with ASD. They evaluated eleven parent- training intervention approaches, such as, Early Start Denver

Model (ESDM) and Pivotal Response Training (PRT) They identified the effectiveness of the approaches, for both parent and child outcomes. However, the review highlighted there was a lack of long-term generalisation during studies follow up processes. However, the review identified that two studies that had generalisation and last effects. These two intervention approaches had greater time spent training parent, compared with the other intervention approaches. They concluded that this was a direct influence on the lasting and generalisation effect of these programmes.

This research indicates that parents can have an significant role within intervention for children with ASD. Parents can be supported with the use of social engagement strategies to use with their child in their day to day lives, and this can support their child's social communication skill development with lasting effects. where Parent implemented interventions can provide a high dosage of intervention that supports children with their development in their natural environments (Wetherby, Guthrie, Woods, Schatschneider, Holland, Morgan, & Lord, 2014).

As parent implemented intervention equips parents with practical strategies, these can enable them to set their child up for success in previously challenging environments.

1.9 The Way to Play Parent Training Programme

The WTPPTP originated from a workshop called RASCAL (Relationship Approach to Social Communication, Autism and Learning). The programme came under Autism New Zealand umbrella, which developed the programme to include support and education about social engagement, play and communication. With the development and new focus of the RASCAL programme, Autism NZ renamed the programme to the Way-to-Play.

The Way-to-Play Parent Training Program (WTPPTP) was designed to improve the social engagement and connection between parents of children with Autism Spectrum Disorder, using specific techniques and strategies. WTPPTP is a naturalistic intervention approach designed for parents to learn how they can effectively interact and play with their child, in the child's natural environment. This naturalistic intervention has many of the strengths of both clinician lead and child centred interventions by retaining features of both approaches. The programme aims at providing education, support and practical help for parents/ caregivers and other professionals on how to have joyful, lasting and engaging interactions with their child with ASD during play. These strategies help overcome the barriers noncompliance, challenging behaviours and a lack of social engagement from children with ASD, which often causes a parent/caregiver to withdraw or avoid play with the child.

The WTPPTP using naturalistic approaches, such as using differential reinforcement, in the child's natural interactions and environments with their parents. The WTPPTP also has the theory of behaviour theory and the transactional theory of language acquisition. That language is learnt though the interactions with parents. The approach places a large value on flexibility and are based on what the child is interested in, expanding and shaping the desired response.

The programme coaches' parents through play situations that are in the parent and child's natural context and environment. Parents are taught strategies of acting as following the child's lead, acting as a guide, modelling, coping, prompting and using pattern, memory and variation. Acting as a guild consists of modeling and prompting the child during situations that are unfamiliar to the child and/or supporting them with the desired behaviour. Making

yourself interesting consists of parents getting down to the child's level, framing your face with objects/toys and being extravagant intonation and facial expressions.

The main taught strategy of the WTPPTP is that of pattern, memory and variation. Pattern is where a parent establishes a mutually enjoyable pattern, such as holding your arms up and moving your fingers and attaching a catchphrase with it, for example, tickles. This is then established as a memory for the child. Once the pattern is familiar to the child, slight variations can be added which supports flexibility. Parents are also taught communication strategies, such as using comments instead of questions, modelling and extending their child's utterances.

Adults using playful strategies, have been shown to have significantly improves in communication and socials skills, such as imitation and their responsiveness towards those playing with them (Field, Field, Sanders, & Nadel, 2001; Nadel, Martini, Field, Escalona, & Lundy, 2008). As parent/caregivers commonly experience challenges engaging with their child with ASD during play, recent research has focused on how to support parent/caregivers with their ability to actively play with their child. Research has shown that a natural and non-nondirective play intervention for children with ASD has significant benefits on the type of play displayed (Josefi & Ryan, 2004; Kenny & Winick, 2000; Morgenthal, 2015). When parent/caregiver's uncooperative simple social engagement strategies, such as modelled the desired response, reinforcement with prompts and shaping techniques, there has been shown to have a development in the complexity of play with children with ASD. This again is the aim of the training programme, for parents to feel supported with their abilities to support their child and have quality interactions during play through the use of the training.

1.10 Rationale for the Current Study

The Way to Play Parent Training Program (WTPPTP) aims at providing parents with practical strategies and techniques they can use during their everyday interactions with their child with ASD. The strategies and techniques aim at showing parents that they are able to have joyful and fun interactions during play with their child. While the WTPPTP uses evidence-based communication strategies, as yet its efficacy as a package for children in NZ has not be formally evaluated. There are a number of similar programmes that incorporate parenting coaching and the use of natural techniques, such as ones investigated by Girolametto et al. (2000) and Trawick-Smith and Dziurgot, (2011), however there is a gap in the research with preschool children with ASD, multicultural families and the use of a day programme and then supporting coaching sessions, which is one of the aims of this study.

Research has shown that parents experience a decrease in quality of life, mental health challenges and isolation, as a result of having a child with ASD. Parents require support to be able to establish relationships, boundaries, routines, support and care for a child with ASD within the wider family unit. In addition, a child with ASD needs support to learn to interact, communicate and play within the family unit. As social interaction and play with parents is vitally important for children's development, it is important to train parents with social engagement and communication strategies. Some parent implemented interventions have been shown to be effective for supporting communication and play within families of children with ASD, provided parents have the correct support to implement the strategies. Research has identified when a parent is educated and supported to being more aware of their child with ASD initiations and use communication strategies, play with a child with ASD had significant improvement and quality (Girolametto et al., 2000; Kasari et al., 2006;

Trawick-Smith & Dziurgot, 2011). Adult involvement during play has been shown to be beneficial for a child with ASD, as it expands a child's play levels (Thorp, Stahmer, & Schreibman, 1995). However, there is currently minimal research to support play-based parent interventions for preschool children with ASD and the combination of multicultural families this study will support the use of evidence-based practices in the real world.

As well as parents requiring support, children with ASD also require support. As typical developing children naturally develop communication skills (Nazzi & Bertoninici, 2003), children with ASD require additional support and intervention to develop the much-needed communication skills, as they have been showed to have delay with communication, both with their initiation and response (Landa & Garret-Mayer, 2006; Zwaigenbaum, Bryson, Rogers, Roberts, Brian & Szatmari, 2005). There has been research to suggest that with parents learning to be more aware of their child initiation, in a natural setting, there have been development/ appearance of receptive and expressive language (Rogers & Dawson, 2010). This is the desire for the WTTPTP, as it aims at parents having a new awareness of their initiation, in their natural environment, therefore supporting development of receptive and expressive language.

Although the WTPPTP has been running for a number of years and parents and professionals have reported positive feedback, its efficacy has not been formally evaluated. This study seeks to understand whether the unique nature of the WTTPTP, the study combines a day training programme and supporting coaching sessions, the study can highlight the use of a unique structure which seeks to brings about change communication and social engagement for multicultural families of preschool children with ASD. As previous research has demonstrated the use of parenting coaching and training with supporting

change for children with ASD, however combining the two evidence-based processes with multicultural families are capable of supporting preschool children with ASDs communication and social engagement.

Therefore, this pilot study set out to conduct a preliminary evaluation of the effectiveness of the WTPPTP programme in a clinical context with preschoolers with ASD. The research questions are as follows:

1. What changes in parent-child communication during play can be seen following participation in the WTPPTP?
2. What changes in the social engagement of parents and children during play can be seen following participation in the WTPPTP?
3. What changes in the parents' perception of playing with their child were seen following participation in the WTPPTP?

Chapter Two: Research Methodology

2.1 Design

The study used a descriptive case series method and gathered both quantitative and qualitative data. The quantitative data was gathered through observation of parent-child dyads, using the Play Observational Schedule (see Appendix A) and qualitative data was gathered through parent responses to the Parent Play Questionnaires (see Appendix B & C), which was completed during the initial and final play observation.

2.2 Recruitment

2.2.1 Human Ethics Approval

The study was reviewed and approved by the University of Canterbury Human Ethics Committee (see Appendix D). The following ethical issues were considered and addressed.

2.2.2 Consent

Consent forms were gathered from the parents (see Appendix E) and the child (see Appendix F), during the initial play observation, by the researcher. Prior to the initial play observation information sheets (see Appendix G) were provided, and consent forms completed.

Brief and simplified study information was presented to children in order to gain their assent. As it was uncertain whether the children comprehended the assent procedure, throughout the sessions, the parents, coaches and the researcher observed the child for signs of distress or frustration. When appropriate, a break was provided, or the recordings were stopped.

2.2.3 Confidentiality

Each parent-child dyad was provided with an anonymised code during the initial observation which they used when completing the Parent Play Questionnaires. The code enabled the researcher to track Play Observational Schedules and the Parent Play Questionnaires, without providing any personal information or information that the parents or child could be identified by. Each Way-to-Play facilitator and blinded marker completed a confidentiality agreement (Appendix H) to ensure protection of the identity of the parents and their child.

2.3 Participants

The inclusion criteria consisted of each child having a formal and primary diagnosis of Autism Spectrum Disorder, diagnosed by an appropriate medical professional. Parents of children without formal diagnoses of ASD and with concomitant developmental disorders (e.g., Down syndrome or Fragile-X syndrome) were excluded.

Three parent-child dyads were recruited during Autism New Zealand's registration process for WTPPTP. One family decided to discontinue their participation in the study after completing an initial 20-minute play observation. Their results are not included in this thesis. One family was requited one the day of the WTPPTP, therefore did not have an initial play observation.

All three children who participated in the study were from culturally diverse families. Their parents identified that their child attended a local preschool/kindergarten. Each child was reported to exhibit behavioural challenges, such as aggressive behaviours. It was also identified that the children did not initiate communication, social engagement or social play. The three children were considered nonverbal or as having very limited verbal abilities. The

children all displayed solitary or parallel play, and parents expressed difficulties engaging with their child, during play. Further demographic information is included in Table 1. All names used in this thesis are pseudonyms to protect the identity of participants.

2.3.1 Participant 1: Arham

Arham is a 4;7-year-old boy, who lived with his mother, father and older sister. His parents identified as Indian (Pakistani) ethnicity reported speaking both English and Urdu at home. His parents were concerned about his limited language and behaviour, which lead them to seek professional help and resulted in the ASD diagnosis. Arham had limited verbal language, and primarily used nonverbal means to communication. His behaviour included biting and aggression, which created a challenge when attempting to play and interact with him. His mother reported that Arham spent a large amount of time riding his bicycle and building objects with blocks. She also stated, “he is an outdoor child and mostly wants to play outside in a park or on a bike…”. Arham had 2 x 15-20-minute preprogramme play observations.

2.3.2 Participant 2: Myra

Myra was a 3;5-year-old girl, who lived with her mother, father and older brother. Her parents identified as is Fijian Indian and spoke both English and Hindi at home. They felt that she was able to comprehend both languages. Her parent was concerned about her limited language, which lead them to seek professional input and thus lead to an ASD diagnosis. Myra displayed limited expressive language and primarily used nonverbal forms of communication, such as taking her parents’ hand to direct them to the object she wanted or needed. Her parents reported that Myra had behavioural challenges, specifically when they attempted to implement bedtime and sleeping routines. Myra’s parents reported that when

at home, Myra spent the majority of the time watching tv shows and did not show interest in toys. Myra enjoyed playing with her older brother, specifically using balls and turn-taking activities, such as tag. Myra had 2 x 15-20-minute preprogramme play observations.

2.3.3 Participant 3: Alden

Alden was a 3;5-year-old boy, who lived with his mother, father and older brother. His parents identified as Filipino and spoke both English and Tagalog at home. His parents had concerns about his limited language use, which lead them to seek professional help and thus lead an ASD diagnosis. Alden had limited verbal language and primarily used unintelligible babble and nonverbal forms to communicate his needs and wants. Alden's parents reported that he was not interested in playing and interacting with them or with toys/objects, which created a challenge for them, as he "does his own thing". It is important to note, this parent and child dyad was recruited during the Way-to-Play Parent Training Programme, therefore the one initial observation was completed immediately following the one-day Way-to-Play programme session. The play observation consisted of a 10-14-minutes play episode, which formed the base line for this dyad.

2.3.4 Parents

Three parents participated in the study. Arham's mother identified as a stay at home mother and the primary caregiver. She attended the WTPPTP and participated in one in-home coaching session. Both Myra's parents worked full time, however both parents attended the WTPPTP and the in-home coaching sessions. Both Alden's parents attended the WTPPTP and the in-home coaching session, however only Alden's father completed the play observations. All three parents were between the ages of 30-40 years.

Table 1. *Child and Parent Demographic Details*

Child	Arham	Myra	Alden
Gender	Male	Female	Male
Age and Diagnosis	4;7 years.	3;5 years.	3;5 years.
	Diagnosed at 4;1	Not disclosed	Diagnosed at 2;5
Ethnicity	Indian (Pakistan)	Fijian Indian	Filipino
Primary Languages	English	English	English
	Urdu	Hindi	Tagalog
Primary Parent	Both	Mother	Father
Parent Age	35-45	35-40	30-40

2.4 Measures

2.4.1 Research Question 1: Measure of Child Communication

To identify whether there was a change in communication, the video observations were coded based on the following items from the Play Observational Schedule:

- Initiation:
    - "Initiates verbal/nonverbal communication, such as an extended hand"
    - *Initiation was categorised on the Likert Scale from:*
        - *Verbally: Never Occasionally Frequently*
        - *Nonverbal: Never Occasionally Frequently*
- Response:
    - "Responds verbal/nonverbal communication, such as an extended hand (both verbally and/or nonverbally)."
    - *Response was categorised on the Likert Scale from:*
        - *No Attempt to Respond Responds verbally Responds nonverbally*

The coding procedure was as follows: Firstly, the video observations were divided into 2-minute intervals. For each interval, a rating on the Likert scale was appointed. Dummy codes were used to create a metric to summarise the child's communication across the video sample. For example, 'never' was assigned 0 points, 'occasionally' was assigned 1 point and 'frequently' was assigned 2 points. These points were added up and divided by the total number of 2-minute segments and then multiplied by 100 to create a percentage. For example, Arham had 2 x preprogramme play observations, consisting of 18 two-minute observation intervals. Therefore, the total number was divided by 18.

2.4.1.1 The Play Observational Schedule

The pre intervention Play Observational Schedule consisted 3 measurable points, that were used twice, once during the initial play observation and the second during the final play observation.

It consisted of two sections. The first focused on communication and comprised of 2 Likert-scales which are outlined in the following section. The second section consisted of the Social Engagement Scale and was used to measure both play levels and social engagement. The 'Social Engagement Scale' was developed by Autism New Zealand in conjunction with Early Intervention Teachers and Speech and Language Therapists working for the Ministry of Education, who were experienced in supporting families and children with ASD. There are multiple factors that contribute towards social engagement. For example, social engagement requires incorporates eye contact, turn taking, a back and forth exchange when another person is welcomed into their world of ideas, emotions and thoughts (Wimpory, et al., 2000). Engagement is commonly measured based on the frequency of eye contact, dominance, joint attention and the types of play (Jones et al., 2006; Warreyn, Roeyers, Oelbrandt, & De Groote, 2005; Whalen & Schreibmen 2003; Whalen et al., 2006; Wimpory, Hobson, & Nash, 2007). This scale provides a comprehensive summary and description of the social engagement and communication skills above which contribute towards quality interactions during play. Levels of play are also included in the scale.

2.4.2 Research Question 2 & 3: Measure of Social Engagement and Play Levels

The Social Engagement Scale was used to measure the social engagement and play levels the children were displaying. Each two-minute time interval in the videos were assigned a level on the Social Engagement Scale. To create a social engagement metric, each level was

assigned a number For example, engagement level 1= 1 point, engagement level 2= 2 points, etc. The total number of points were added together and divided by the total score possible, which was then converted to a percentage. The total possible score was calculated based on how many 2- minute intervals a child had. For example, Arham had 2x 15-20-minute pre-programme play observations, therefore had 18 observed intervals. His total possible social engagement score was therefore 90 (5 points x 18).

2.4.2.1 Pre and Post Questionnaires

Parents completed two questionnaires to measure their perception of interactions with their child during play throughout the study. The Informational Parent Play Questionnaire (pre intervention version) (see Appendix B) was provided to the parents during the first play observation and took approximately 15-20 minutes to complete.

This questionnaire consisted of 43 items that included open-ended response, multiple-choice and Likert scale response questions, however only three questions were used as they related to the research questions. Questions consisted of information about the child's typical play and social engagement, identifying parental perceptions of play, what strategies they currently used to engage with their child, and questions to gain a picture of a typical interaction. The Extended Parent Play Questionnaire (post intervention version)(see Appendix C) consisted of 25 items, however only three questions were used as they related to the research questions. All parents were asked to complete this questionnaire within two weeks of the final observation session. This was the measure used for parent perspectives on playing with their child The item used from the questionnaire to measure parent perspective was "How do you feel playing with your child? (See Appendix C).

2.5 Intervention: Way-to-Play Parent Training Programme

Autism NZ is a charitable organisation who provides nationwide support and education for parents, caregivers and professionals with children and adolescents with ASD. For this study Autism NZ ran the WTPPTP in Auckland City at a hired conference room. The programme involved two facilitators, who also completed the initial observation and post-programme coaching sessions. An outline of the programme and the strategies that were presented are included in Appendix I. The programme consisted of providing information to parents and caregivers about communication, social engagement and behaviour management strategies.

The WTPPTP ran on a weekday for 6 hours. The programmes involved lecture style teaching sessions. The facilitators provided education about a topic and/or strategy, that accompanied a Way-to-Play manual. Each topic and/or strategy was taught using illustrations of video clips from other parent-child dyads or caregiver-child dyads. Small group discussions were also included during the sessions.

Autism NZ indicated support for this research (see official email, Appendix J) which they were willing to:

- Distribute study information for potential participants to contact the researcher
- Provide the Way-to-play course free to parents
- Provide each parent with 3 x 1-hour coaching session, after completion of the Way-to-Play Parent Training Programme.

2.5.1 Coaching

Following the confirmation of the two play observations, the intervention section began. Both primary caregivers were invited to attend the WTPPTP group training session. Within 4

weeks of the attendance of the programme, the parents were provided with three, one-hour coaching sessions with the Way-to-Play facilitators. The timing of each coaching session was flexible, depending on the availability of each parent. Both parents were invited to be part of the coaching sessions. The structure of the coaching session was based on The Early Childhood Coaching Handbook (Rush & Shelden, 2011) and Autism NZ Way-to-Play Handbook (2017).

Each coaching session had five segments:

1) **Introduction**: At the beginning of each coaching session, a strategy or technique was discussed. For example, the first strategy of Pattern, Memory and Variation, was addressed. The parents were asked what they remembered from the WTPPTP and how they can begin to implement it during a play scenario with their child. Dependent on the answer, it was then established the type of coaching feedback to be provided.
2) **Intentional Modelling**: Following the introduction, the coaches completed a seven-step procedure, where they modelled to the parents on how to apply the techniques and/or strategies with their child.

   The seven steps consisted of:

   1) Explaining what the coaches was going to model/ the theme for the session.
   2) Providing the parent with something specific to observe (which would be established during the initial discussion).
   3) Modelling the strategy and/or technique, whilst the parent observes the coaches.

4) Discussions with the parent about what worked, what didn't and why and what could have been changed.
5) The parent then practiced playing with their child while implementing the strategy and/or technique.
6) The parent and coaching's debriefed and reflected on the interaction/ play.
7) Finally, the coaches and parents developed an action plan.

3) **Practice**: The parent and child played together, while a coach video recorded 10-15 minutes of the session.
4) **Video Coaching:** Coaching was only focussing on the theme for the day. For example, someone who was confidently using a strategy would be encouraged to identify other contexts in which they could use it. Someone who was less confident could watch the video again and walk them through what effect the strategies had on their child.
5) **Planning and Goal Setting:** At the end of each visit the parents made a plan on how and when, they would practice the techniques and/or strategy.

2.6 Procedures

This project involved three specific sets of procedures (see Table 2). The first session consisted of the researcher making a home visit, where the initial play observations were completed. During the visit, parents were also provided with the Informational Parent Play Questionnaire (pre intervention version). Following the visits, the Play Observation Schedules were completed by the two markers within approx. 4-6 weeks.

The parents then attended the WTPPTP day programme and follow-up in home coaching sessions. Although the programme had a registration cost of $20, this was waived for

participants. Following the WTPPTP, the parents then had 3 coaching sessions and a final play observation. The coaching sessions involved supporting parents to implement the specific strategies that were introduced during the WTPPTP. The final play observation took place after the parents had 3 completed in-home coaching sessions. The final play observation consisted of a 10-15-minute play session. The Extended Parent Play Questionnaire (post intervention version) was left with the parents to complete and was collected 4 weeks following the final observation.

Table 2. *Timeline of the* Way-to-Play Parent Training Programme

Children	Timeline
Arham & Myra	1st Initial Play Observation: Parent Questionnaire Provided
	2nd initial Play Observation (4 days after initial observation)
	Way-to-Play Programme (3 days after final observation)
	Coaching Session 1 (1 week after WTPPTP): Parent Questionnaire Collected
	Coaching Session 2 (1-2-week Coaching Session 1)
	Coaching Session 3 (1-2 week after Coaching Session 2): Parent Questionnaire Provided
	Final Play Observation (2-3 Weeks after Coaching Session 3): Parent Questionnaire Collected
Alden	Way-to-Play Programme: Parent Questionnaire Provided
	1st Initial Play Observation (1 week after WTPPTP)
	Coaching Session 1 (1 week after WTPPTP)
	Coaching Session 2 (1-2-week Coaching Session 1)
	Coaching Session 3 (1-2 week after Coaching Session 2): Parent Questionnaire Provided
	Final Play Observation (2-3 Weeks after Coaching Session 3): Parent Questionnaire Collected

2.7 Analysis

2.7.1 Pre-Programme Observations

The first section of this project consisted of completing 2 x 15-20-minute play observations, in the child's natural environment. The WTPPTP facilitators, who would later provide the coaching sessions, and the researcher, were present during the initial play observation.

Each observation was video recorded by the researcher, which was later reviewed by the researcher and the second marker, using the Play Observation Schedule (see Appendix A and I). The parent was instructed to interact and play with their child as they typically would on a normal day.

Each observation was video recorded as it allowed the research and the second marker multiple viewings and support accurate completion of the Play Observation Schedule.

2.7.2 Post-Coaching Observation

The third and final section of the study, consisted of one final 10-15-minute play observation. This was used to measure the final outcomes, based on the Play Observational Schedule. The parents completed the Extended Parent Play Questionnaire (post intervention version) based on their interaction following the final coaching session. The WTPPTP facilitators/coachers completed the video recordings of the post WTPPTP coaching observations. The parents had the option to have both or one parent complete the final video recording observation. The parent/s were encouraged to interact and play with their child as they typically would.

2.7.3 Reliability of Play Observation Schedule Data

To establish inter-rater reliability for the Play Observation Schedules, the researcher and a second marker completed the Play Observation Schedules. A qualified Speech-Language Therapist served as a second marker to support consistency and accuracy of results of the Play Observation Schedule. A Speech-Language therapist was used as they had an understanding of social engagement measures and communication. However, the researcher discussed the terminology with the second marker to ensure full understanding of each measure. The second marker and the researcher completed the Play Observation Schedule while watched the recorded play observation videos. The marker and the researcher did not watch and complete the schedules at the same time.

Each recorded play observation was split into 2-minute intervals for analysis. Splitting the play observations into intervals allowed the researcher and the second marker to identify the overall engagement levels and behaviours a child displayed. The 2-minute segments also allowed any changes that occurred in a short amount of time, to be identified which could be reflected in the results.

Once the second marker and the researcher had completed the Play Observation Schedules for each parent-child dyad, the researcher reviewed the second marker's Play Observation Schedules, for comparison. During the review of the second marker's schedules, the researcher sought to identify the level of agreement throughout. When there were differences, there was a one-point difference between the second marker and the researcher. Overall, there was a 90% agreement between the second marker and the researcher. This was calculated based on the similarities and differences of the marked points on the Play Observation Schedules. Reliability was calculated by assigning 1 point

when there was a difference between the research and the second marker, which was then added together and later subtracted by the total number of 2-minute intervals for all parent-child dyads (199). The total number of 2- minute intervals were then divided by the total number of agreements (190) and multiplied by 100, to calculate a percentage.

To demonstrate treatment fidelity, the researcher completed the Parent Treatment Fidelity Checklist (see Appendix K). In conjunction with this checklist, the researcher also completed the Parenting Strategy Observation Schedule (see Appendix L) based on the video recordings of the final play session. This was to verify if parents were utilising strategies presented during the WTPPTP and coaching sessions.

Chapter Three: Results

The aim of this study was to gain an understanding as to whether parents' involvement in the WTPPTP and follow-up coaching sessions supported change in their behaviours and if these had an effect on their child's communication and social engagement during play.

3.1 Research Question 1: Measure of Child Communication

The following results relates to the first research question which seeks what changes in parent-child communication during play can be seen following participation in the WTPPTP, using The Play Observational Schedule. Communication was categorised into 'initiations' and 'responses,' for both nonverbal and verbal communication.

3.1.1 Initiation: Verbal Communication

During the initial observation, all three children displayed minimal verbal initiations. However, following their parents' participation WTPPTP, all three children displayed a change in the frequency of verbally seeking social engagement with their parent.

Arham was the only child who displayed minimal changes in his initiation of verbal communication (see Figure 1). Initially he frequently used babble, single words and gestures during play with his parent. However, following the WTPPTP he used less verbal communication but increased in nonverbal initiation of communication.

Myra results are displayed in Figure 2. Initially it was observed that her verbal communication consisted of 'vocal babble' or 'noises', however this was not used as a form of initiation. During the study Myra began to initiate verbal communication through the use of single and occasional two-word combinations. Figure 2 represents this progression. An example was when she initiated a game of "tickles" in the post-intervention observation, by

walking up to her mother and/or brother and say “tickles”. Although babble and noises were still present, these appeared more purposeful in when and how she used these to communicate. Alden displayed a similar progression in verbal communication between pre- and post-intervention observations (see Figure 3).

3.1.2 Initiation: Nonverbal Communication

All three children demonstrated a noticeable change in their initiation of communication using nonverbal forms. Initially, the children rarely initiated interactions using nonverbal communication. However, following the WTPPTP, all three children displayed an increase in their initiation of nonverbal communication, when provided with the opportunity (see Figures 1-3). The three children frequently partook in the opportunity to initiate nonverbal communication. For example, Alden increased his initiation of nonverbal communication during play with his father (see Figure 3). Initially Alden was frequently disengaged and made little attempt to attempt to initiate communication during play, therefore he scored 67 out of 200. However, during the final play observation, Alden appeared excited to engaged with his father and made frequent attempts to initiate communication, therefore scored 185 out of 200. Alden initiated nonverbal communication frequently when his father intentionally disengaged during play. He then used gestures and physical touch in an attempt to re-engage his father and to continue to play with him.

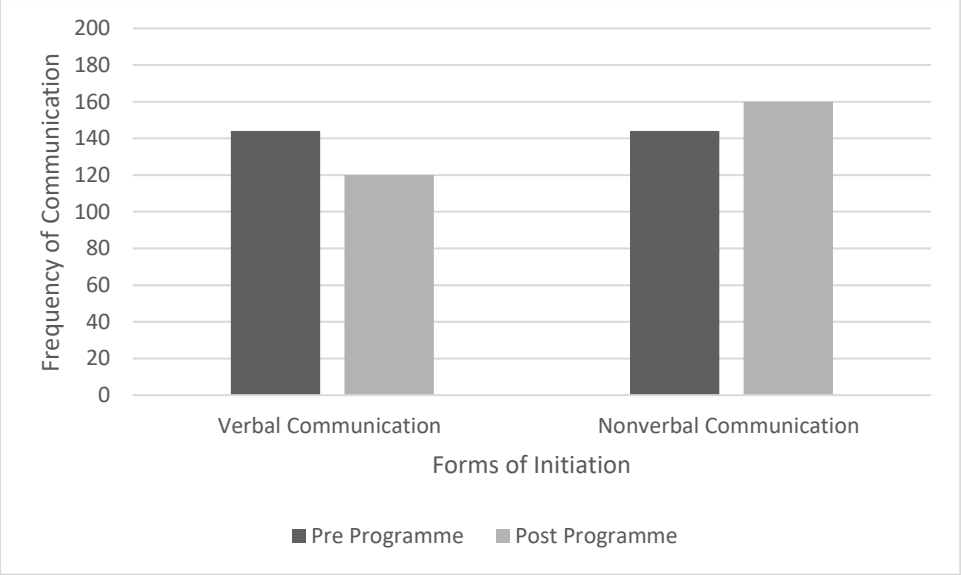

Figure 1. Pre and Post Intervention Forms of Initiations: Arham

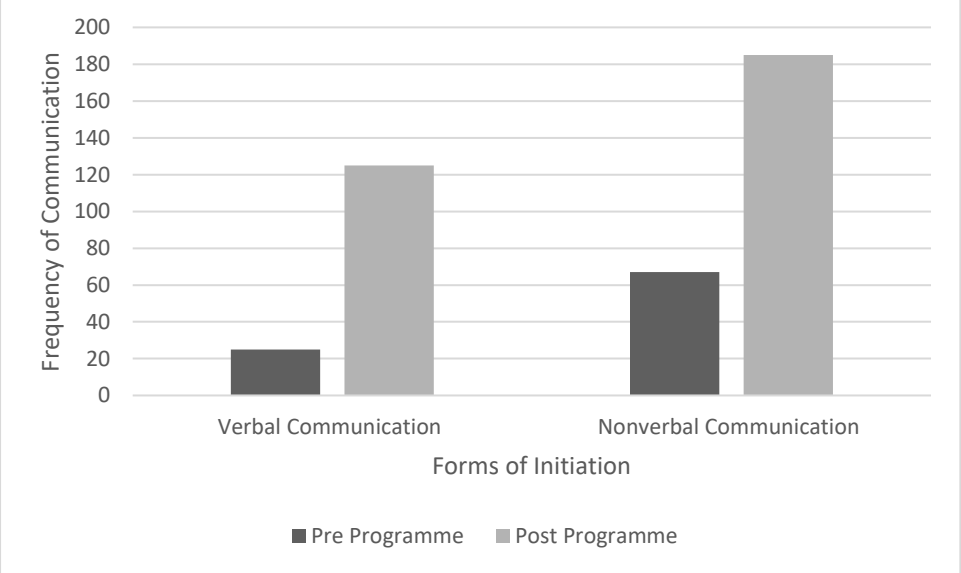

Figure 2. Pre and Post Intervention Forms of Initiations: Myra

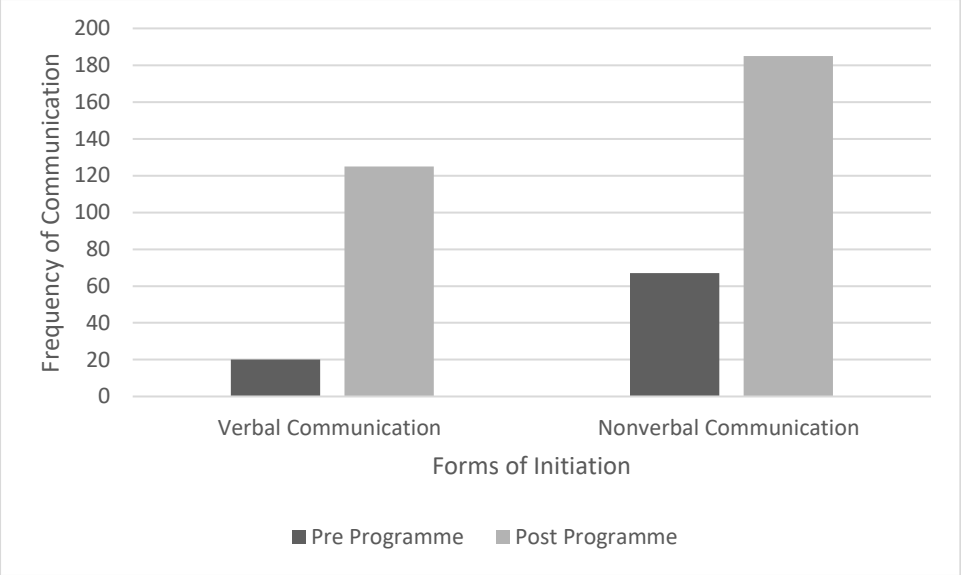

Figure 3: Pre and Post Intervention Forms of Initiations: Alden

3.1.3 Response: Verbal Communication

Consistent with the increases in verbal and nonverbal initiation, all three children demonstrated increases of their verbal responsiveness. There were large differences in the type of communication that each child used. Verbal response was rarely demonstrated during the initial play observations. As displayed in Figures 4-6, all the children demonstrated an increase in their responsiveness towards their parents during play in the post-intervention observations.

3.1.4 Response: Nonverbal Communication

During the initial play observations, the children demonstrated few responses to their parents' attempts to engage them during play. In contrast, during the final observation, each child responded frequently to their parents during play. This often came in the form of engaging their parents attempt to socially engage and play with them. These responses were primarily nonverbal (e.g. the use of gestures and/or engaging the parent or object the parent offered).

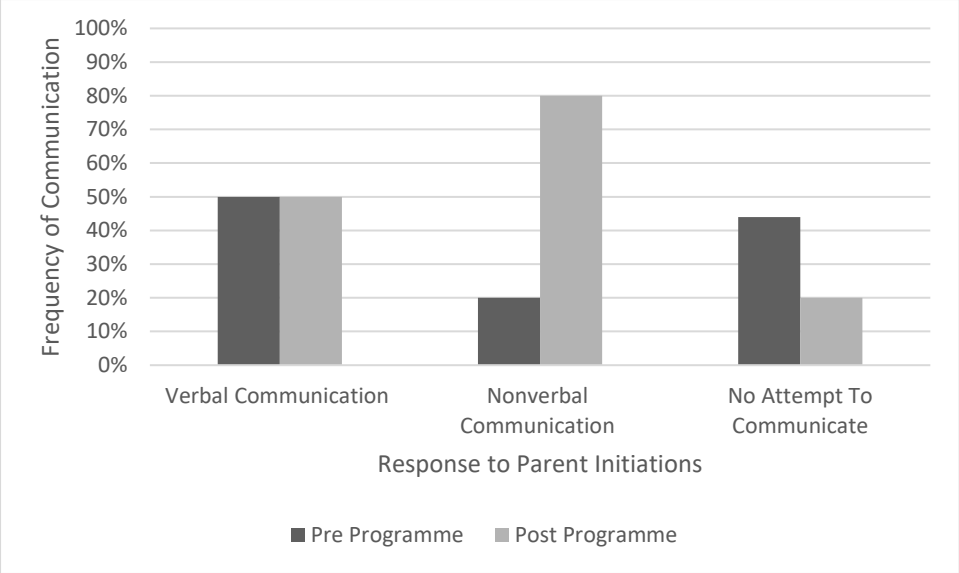

Figure 4: Pre and Post Intervention Verbal and Nonverbal Response: Arham

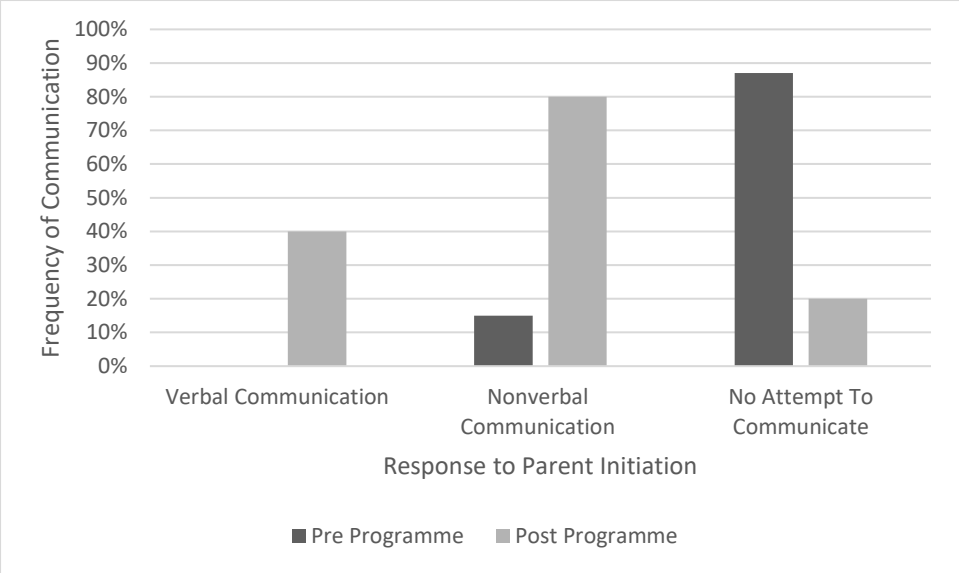

Figure 5: Pre and Post Intervention Verbal and Nonverbal Response**:** Myra

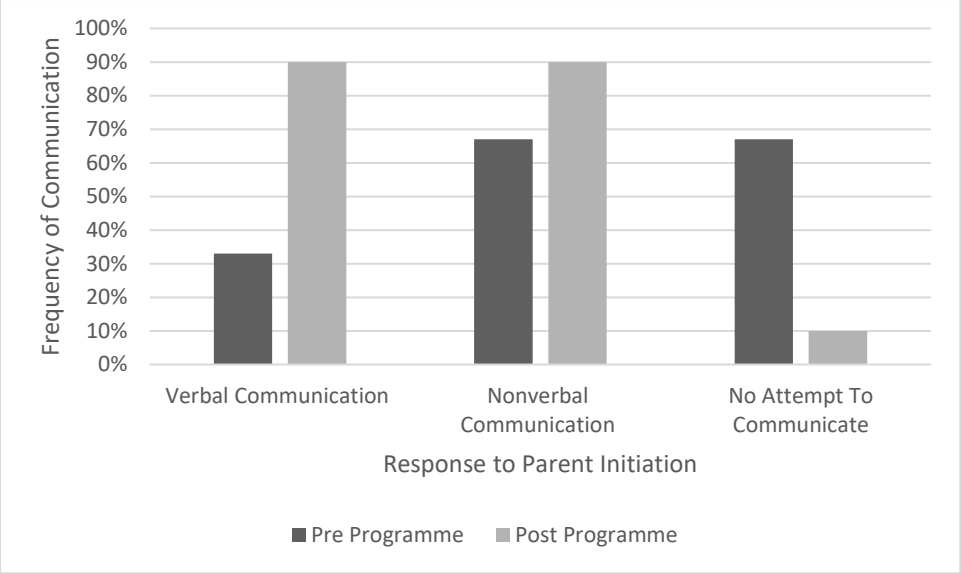

Figure 6: Pre and Post Intervention Verbal and Nonverbal Response**:** Alden

3.2 Research Question 2 & 3: Measure of Social Engagement and Play Levels

The following results relate to the second and third research question, which seeks to identify what changes in the social engagement and play between parents and children during play can be seen following participation in the WTPPTP and what changes in the parents' perception of playing with their child were seen following participation in the WTPPTP.

3.2.1 Social Engagement Scale

3.2.1.1 Arham

Arham demonstrated an increase in his social engagement across the study (see Figure 7) as measured by the (insert name). During the initial observation he was the only participant to display social engagement at level 0 (11% of time). He appeared to fixate on objects, and frequently avoid social engagement (e.g., running away) and used mild aggressive behaviours (e.g., biting and pushing). Arham did not appear to express enjoyment or attempt to communicate. His play was predominantly solitary.

Following the WTPPTP, Arham's social engagement progressed to levels 3 (33% of the time) and level 5 (67% of the time). Arham began to initiate interactions, both verbally and nonverbally and changed how he socially interacted with his mother. When Arham's focus shifted to his mother, join attention, verbalisation, eye contact and social engagement, shared emotions and communication appeared to increase.

3.2.1.2 Myra

Myra demonstrated an increase in her social engagement across the study (see Figure 8). In Myra's initial play observations, she primarily demonstrated social engagement at level 1 (67% of the time). She was also observed using intermittent eye contact and would appear to fixate on toys. Following the WTPPTP, Myra displayed social engagement at level 5 (60% of the time) and began to demonstrate more frequent episodes of eye contact, joint attention and appeared motivated to continue playing with her parents.

3.2.1.3 Alden

During the initial 10-minute play session, Alden displayed social engagement primarily at level 1 (67% of the time). Little social engagement or joint attention was observed between Alden and his father. His primary focus was either on nothing or on objects. Neither Alden nor his father appeared to experience joy or fun together. At times the play and interactions appeared challenging for Alden's father. However, during the final observation, Alden displayed social engagement at level 5 (60% of the time). This also appeared as increase in joyful play interactions, where there were frequent episodes of joint attention, as well as 'serve and return' play patterns.

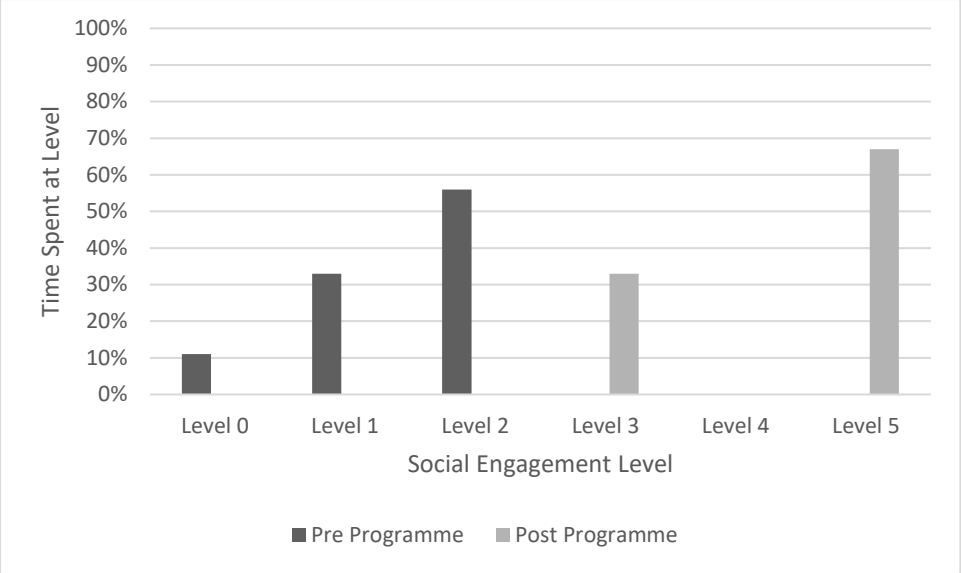

Figure 7: Pre and Post Intervention Engagement Levels: Arham

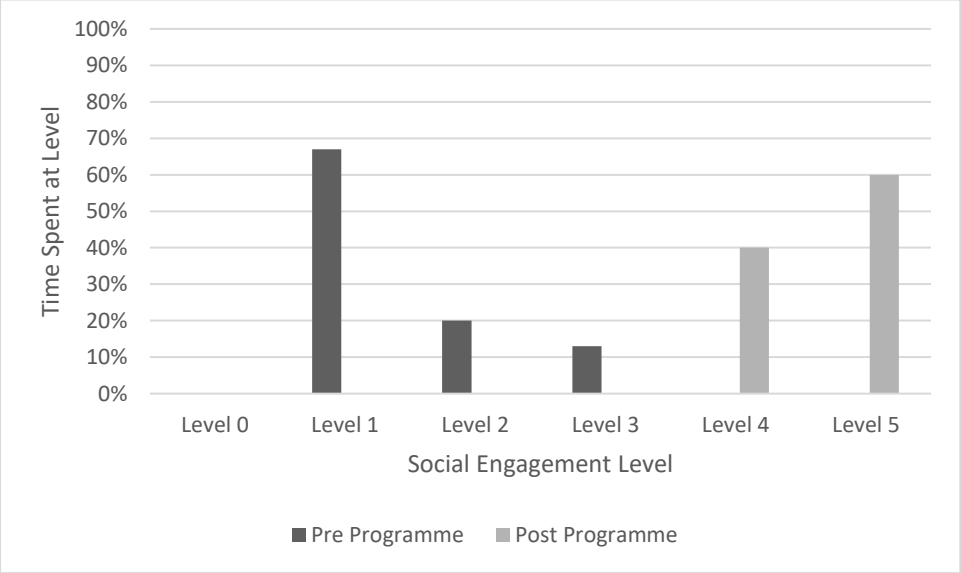

Figure 8: Pre and Post Intervention Engagement Levels: Myra

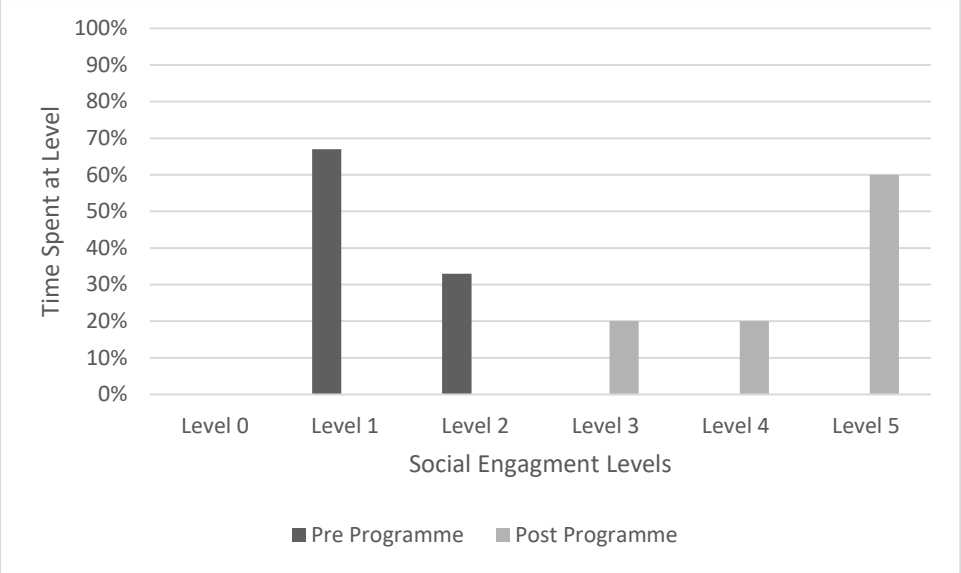

Figure 9: Pre and Post Intervention Engagement Levels: Alden

3.2.2 Parent Perception

To gain an understanding of parents' knowledge about play, parents were asked about their perceptions of an interaction, using the question "*How do you feel playing and interacting with your child?"*. All three parent participants reported that the interactions were different pre and post WTPPTP.

Before attending the WTPPTP, Myra's parent stated, *"I do not play with Myra, she ignores me. I try to teach her colours".* Similar to this Alden's parent also reported *"it is difficult and hard because he does his own thing".*

However, following the WTPPTP, Myra's mother expressed, "*It was a struggle before. She is happily playing when she's happy, we're happy"* and "*we're so much happier together now".*

Alden's parents reported feeling *"the interactions are so different now. Participation in the WTPPTP has changed the interactions in a big way. I realise I don't need to buy any toys! I am the toy. That he wants to play with us and be with us more*". Their perspective had shifted away from objects and interactions to, *"it's about people and everyday activities becoming more playful and fun".*

Arham's mother reported feeling like she was consistently struggling to engage and have fun with Arham. She stated, "*sometimes he plays properly with toys and blocks, but in any play, he is not at all interested in people or children around him*". Following the programme, she reported, "*it is more fun, and more interactions is expected".*

3.3 Summary

Overall, the findings indicate a change in both verbal and nonverbal communication of the children in the study. There were observed changes in the use of verbal communication and

children's communicative behaviours. There was also an increase in their use of nonverbal communication, both as a communication response and initiation. This suggests the WTPPTP and in-home coaching has a positive influence on the initiation of communication, in the primary form of communication the child uses. Similarly, there were changes in the social engagement levels for all three children. These included increases in joint attention, eye contact and the type of play that children engaged in. All three parents reported changes in their perception of play interactions. They all expressed their desire to have fun with their child, and that after participation in the WTPPTP, they felt happier playing with their child. However, these positive findings should be considered alongside the limitations of the current study as detailed in the following chapter.

Chapter Four: Discussion

The study set out to determine if participation in the Way-to-Play Parent Training Programme contributed to changes in parent - child communication and social engagement during play. This case series used a mixed methods design in order to answer the research questions. This chapter considers the main findings with relevance to the research questions and previous literature. The clinical implications, study limitations and future research directions are also considered.

4.1 Communication

The first research question examined if there were changes in parent-child communication during play, following participation in the WTPPTP. The parents were coached with strategies to support increased communication with their child during play. The results suggest that children increased their use of nonverbal initiations and responses to their parents during play scenarios.

Previous research has shown that typically developing children naturally develop communication skills (Nazzi & Bertoninici, 2003), however children with ASD experience delays in communication development, including both initiating communication and responding to communication of others (Landa & Garret-Mayer, 2006; Zwaigenbaum et al., 2005). This highlights the need for communication support and intervention for a child with ASD. One of the ways to support the development of communication is to educate and coach their main communication partner, such as parents.

This study involved teaching the parents of children with ASD, communication strategies, such as watching, listening and responding to their child. The results suggested that all three

parents increasing their responsivity to their child's attempts to communicate and socially engage during play activities. As the parents learnt how their child, often subtly, initiated communication and social engagement, they used the responsive strategies to extend an interaction that could have previously stopped without the use of these strategies. The initial play observations revealed each child had limited verbal communication, a lack of initiation and rarely sought interactions with their parents. The initial observations also indicated that parents had tendencies to follow their child around, attempting to test their knowledge, and rarely provided the children with opportunities to communicate. However, the post play intervention measures documented positive changes in the child's communication –quantity and quality of communication. This included an increase in their use of nonverbal communication. Parents were also observed providing increased opportunities for children to express their interests, desires and thoughts, through the use of the responsive strategies. Parents also communicated and engaged with their child differently after participation in the WTPPTP and coaching sessions. For example, the final play observation no parents attempted to test their child's knowledge and an increase in reciprocated interactions which is a frequent challenge for children with ASD (Greenspan & Wieder, 2006). The study findings also suggested an increase in communication initiations and responses. Similar previous research has shown that when parents are supported and educated with responsive strategies it can enhance the responsiveness and communication for child with ASD (Kaiser & Roberts, 2013).

A potential contributing factor to positive finding was the training and use of the strategies in an environment that was familiar and meaningful to parent-child dyads. The specific coaching sessions that followed the WTPPTP supported parent-child dyads in their familiar home environment. The significance of this strategy has been shown to have positive

influences on a child's language development (Dunlap, Ester, Langhans, & Fox, 2006; Sandall, Hemmeter, Smith, & McLean, 2005). Coaching parents in the use of responsive communication and interaction strategies, appeared to support an increase in communication for the children, which in turn contributed to increased engaged and responsiveness during interactions and play. Previous research has suggested that incorporating responsive strategies, such as modelling, responsiveness and other social engagement strategies in to interactions, has positive influence on the communication initiation and responsiveness of children with ASD (MacDonald & Carroll, 1992).

Parents were taught and coached on strategies such as imitation, modelling, and shaping of communication attempts. These strategies helped parents became aware of how their child was initiating communication. The strategies helped increase parents' knowledge and awareness in terms of how their child sought their attention, and how the parents were able to respond in ways to support communication development. This in turn, appeared to help children increase the number of communication initiations. Previous research has suggested that parental use of strategies involving imitation, modeling and shaping techniques, in a natural manner, can support the development of receptive and expressive language for children with ASD (Rogers & Dawson, 2010).

As observed in this study, children appeared to increase their use of verbal and nonverbal communication at the last play observation. As the children were primarily nonverbal, it was anticipated that their use of nonverbal communication might develop more than verbal expression. The results supported this hypothesis and suggested the programme and coaching facilitated an increase of initiation of communication in the primary form of communication the child used at the start of the study. For example, during the pre-

programme play observation Arham had infrequent subtle moments of nonverbal initiations. However, during the post programme play observation Arham used frequent nonverbal communication, such as physical touch to gain his mother's attention and begin an interaction. In contrast, Myra, who initially used some babble to communicate, appeared to increase her use of verbal communication during the final observation. This increase in verbal communication may be positively influenced by changes in parental behaviours. For example, her parents were observed using the taught strategies, such as getting down to her level and increasing their verbal and nonverbal responsiveness towards her.

With the change in parent behaviours during interactions, each child appeared to begin to respond to their parent's imitation, modelling of language, and shaping techniques which lead to increased enjoyment and exchanges. The uses of the imitation strategies saw a shift in the children's attention and appeared act as a bridge of connection between the parent and child. When a parent was able to identify what their child enjoyed doing and playing with, this allowed them to enter their child's world, which in turn supported and sustained an interaction. As the interactions continued, children were exposed to more language, which may have contributed to the observed increase in verbal communication (McGregor, Sheng, & Ball, 2007; Bopp, Mirenda, & Zumbo, 2009).

4.2 Social Engagement

The study highlighted that preschool children with ASD can be supported to acquire social engagement skills, with each child improving their levels of social engagement. The data collected using the Social Engagement Scale demonstrated that the children had infrequent and few episodes of quality of social engagement prior to their parent's participation in the WTPPTP and in-home coaching sessions. Parents were taught strategies such as following

the child's attention, leading and imitating the child's actions. These allowed for the parents to be more attentive towards their child's interests, communication initiations and responses. These strategies aimed to create space for positive interactions to occur and also increase parents' feeling of confidence that they could capture their child's attention and support them to remain focussed in an activity.

Quality social engagement requires flexibility within an interaction and play. The WTPPTP aimed to support parent flexibility within play-based interactions that was without a specific goal or purpose. The strategies aimed to help parents identify their child's subtle expressions of thought and interests and to incorporate these into play. Following the WTPPTP parents were able to become a play partner with their child and better engage with them, including greater flexibility in their interactions. This was consistent with studies that have reported parents improved social engagement during play through to use of specific parent strategies (Buchanan, 2009; Girolametto et al., 2007; Mahoney & Perales, 2005; Wimpory et al., 2007). The current results are consistent with research that has demonstrated the direct influence of parent behaviours on preschool and young child's social engagement and social behaviours (Josefi & Ryan, 2004; Landa et al., 2011; Shertz & Odom, 2006; Vernon et al., 2012). However, these findings are in contrast with others who have reported that despite parents using social engagement strategies there has been little or no change in social engagement skills over time (Landry & Loveland, 1988; Stone et al., 1997; Wetherby & Prutting, 1984). The increase in quality of social engagement resulted in an increase in social skills, such as joint attention. As joint attention and language development have been closely linked (Calandrella & Wilcox, 2000; Slaughter & McConnell, 2003; Wetherby, Prizant, & Schuler, 2000; Yoder & Warren, 2002), this might have also

contributed towards the observed increase in verbal and nonverbal communication by the three children in the current study.

4.2.1 Play

An increase in the complexity of play between the parents and their children was observed during the current study. This included increased use of eye contact and joint attention, which are important skills to support further development of social interaction and language. During the final play observation there was lasting and mutual engagement. The parents appeared to support this by creating motivation for their child to play with them. This may have been due to parents being more focussed on their child's needs which was exemplified by parent's reduction in use of questions and 'testing'. During initial observations, children would often walk away or not engage with their parents, with play being solitary or parallel. As parents changed how they initiated and responded during play, children appeared to engage more and play for longer with their parent.

Spending more time playing and in more complex ways, provides children with more opportunities to learn and practice engagement skills in a safe environment. The increase in opportunities for the children in this study to have those important opportunities to practice will likely be supporting their social skill development (Tuber, 2008). Based on Parten (1932) six stages of play, the WTPPTP saw a change in the type of play that was primarily seen. All three children initially had solitary or parallel play, as there was a lack of communication and engagement. However, as parents began using specific communication and social engagement strategies, the type of play that children engaged in changed. For example, the emergence of cooperative play was observed. The findings of this study are consistent with Josefi and Ryan's (2004) finding that a nondirective play intervention for

children with ASD can facilitate higher levels of play and increased social engagement between parent-child dyads.

Finally, as play has been linked to language and social skill development (Frost et al., 2012; Sutton-Smith, 2002), the incorporation of communication and engagement strategies during play activities may have supported an increase in quality and quantity of play, which in turn may have contributed children's increased use of verbal and nonverbal communication.

4.3 Parent Perception of Interactions

The parent participants in this study reported different perspectives on play interactions following the WTPPTP and coaching sessions. The WTPPTP encourages parents to engage with their child using key strategies that contribute towards increasing the quality and enjoyment of interactions. The change in how a parent views their ability to engage with their child in turn contributes towards more positive beliefs, attitudes and perceptions of interactions, which in turn contributes towards improved interaction and communication, improving quality social engagement. However, over the course of the study, parents' behaviours changed as they began to incorporate the social engagement and communication strategies. Consistent with previous research into parent training programmes and a change in the perceptions, the current study suggests that the WTPPTP can alter parents' perception of interactions with their children. Similar and prior research has shown parents have a negative perception of play and interacting with their child with ASD due to the challenging nature of it (Lovell, Moss, & Wetherell, 2012; Weiss, Robinson, Fung, Tint, Chalmers, & Lunsky, 2013). With parents expressing their perceived inability to confidently and effectively parent their child (Román-Oyola et al., 2018). Gottman, Katz and Hooven (1996) identified parents' perceptions, beliefs and attitudes had a direct influence

on interaction and communication with their child. When a parent perceives an interaction to be mutually enjoyable, it contributes towards parents having a positive perception of their parenting role (Román-Oyola et al., 2018). Prior to the WTPPTP parents identified that they had negative perceptions of interactions during play. Together, the changes that occurred in the child's social engagement levels and the perception of the parents provides preliminary support for the effectiveness of the WTPPTP. The findings for improved social engagement are consistent with previous research on parent training programmes (Wimpory et al., 2007).

The variability of cultural backgrounds of the study participants was a potential confounding variable. However, the findings suggested that WTPPTP supported participant parents with their ability to let their child take the lead, imitate their child and to use a child centered focus. This may have come as a challenge as this could have been counter to participants' cultural background. For example, Asian (e.g., from India, Korea, Vietnam, or Philippines, etc) mothers have been reported that teaching children is viewed as a primary focus of parenting (Burns & Radford, 2008; Jose et al., 2000). This was observed among the parents in this study as during the initial play observation with Arham's and Alden's parents demonstrating a directive approach to interactions (Simmons & Johnston, 2007). Similarly, Myra's mother was observed correcting Myra during the initial play observation. However, following the WTPPTP parents appeared more child-centered, which contributed to an increase in social engagement with their children.

4.4 Limitations

Several limitations should be considered when interpreting these results. The main limitation was the small number of participants; therefore, the results may not generalise

the wider ASD population. It is recommended that the WTPPTP be investigated with a larger sample size, which would allow for stronger conclusions to be drawn.

The study did not comprise a non-intervention group. This means the cause-effect relationship between intervention and outcomes cannot be proven. It is recommended future research with the WTPPTP include a control group.

The study included limited baseline measures and one child only had one initial observation which was completed after the parent's attendance of the WTPPTP. Although the results of the child are similar to that of the other children, the initial observation may not have provided a comprehensive picture of the typical interactions between the parent and the child and may have resulted in some changed behaviours following the WTPPTP.

The parents all used the WTPPTP strategies in the post intervention play observation, however no data was collected as to the frequency they used these strategies on a day to day basis. As some children saw bigger changes, it can be questioned whether this could be the result how much time the parents implementing the strategies at home.

The current study design does not inform whether the observed short-term gains in the parent-child dyad communication and social engagement are maintained over a period of time. Longitudinal research is needed to investigate this question as similar previous research has demonstrated initial positive results are not always maintained over time (Elder, Valcante, Yarandi, White, & Elder, 2005; Rogers et al., 2012; Seung, Ashwell, Elder & Valcante, 2006). Despite these limitations, the positive results of this study align with previous research.

4.5 Clinical Implications

Notwithstanding the limitations of this study, there are a number of implications for early intervention specialists and parents of preschool children with ASD. The positive nature of findings of current study suggest the WTPPTP combined with specific follow-up in-home coaching has the potential to provide parents from diverse cultural backgrounds with the knowledge and skills to support their young children with ASD to develop their play-based communication and social interaction. The implications for early intervention providers include ensuring that they are familiar with specific aspects of the WTPPTP programme which could be integrated in to areas of their practice. For example, the use of a pattern, memory catchphrase, the variation and/or copying, modelling and prompting a child. Both these strategies have the flexibility for other child to be included into the activity. Similarly, professionals such as speech-language therapists who work with parents who have children with communication development delays or challenges should become familiar with these and other aspects to the WTPPTP to ensure there are equipped with knowledge about the similarities and differences of the various intervention programmes targeting children with ASD.

The results of this study suggest that this programme is effective even when there is a cultural mismatch between typical parent-child interactions and the strategies taught in the programme. The current study saw the use of parent training strategies with multicultural families in New Zealand with preschool children with ASD, support their children with communication and social engagement skills. The study saw the use of parent coaching techniques, in the child's natural environment, support their child with the acquisition of social- communication skills that are required to improve relationships and interactions. The

parents in this study have demonstrated that when supported they were able to develop their abilities in communication and social engagement strategies, which can be used in every day, natural interaction. This resulted the development of the type and frequency of communication and social engagement skills begin to emerge.

4.6 Further Research

The WTPPTP is relatively low-cost compared to other more intensive intervention approaches such as behavioural approaches. Ideally future research would involve randomized control trials to compare the relative effectiveness and cost of programmes available to parents of children with ASD. For example, comparing the WTPPTP with the Early Start Denver Model and the Incredible Years – Autism parenting programme. Future research could also investigate the specific components of the WTPPTP, for example, the role of follow-up coaching, to determine the critical elements needed for the programme to be effective. This research will help ensure that children with ASD and their parents have access to programmes that are specifically tailored to their needs, and with the highest likelihood of positive outcomes.

4.7 Conclusion

The WTPPTP is designed to support and educate parents with practical communication and social engagement strategies to use during play with their children. The results of this study identified all three children exhibited little social engagement or expressive communication before their parents attended the WTPPTP and participated in follow-up coaching sessions. Following the WTPPTP and coaching sessions, children's demonstrated increases in their use of eye contact, initiation, joint attention and more advanced types of play. These changes appeared to contribute to positive changes in social engagement and reciprocal

communication between children and their parent. Considering the ongoing challenges involved in parenting and interacting with a child with ASD, this single day programme and coaching holds much promise as an effective intervention to help parents overcome these challenges, while ensuring that children with ASD are provided the best opportunities to learn and develop.

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Appendices

Appendix A

The Play Observational Schedule

Participant code: _____

Note: these are to be scored in 2-minute intervals, based on what the child did majority of the time.

1. Responds to parent's communication, such as an extended hand. (Circle what was seen the majority of the time)

No Attempt to Respond ***Responds verbally*** ***Responds nonverbally***

2. Initiates communication, such as an extended hand. (circle what was seen the majority of the time)

Verbally: Never ***Occasionally*** ***Frequently***

Nonverbal: Never ***Occasionally*** ***Frequently***

Social Engagement Scale

Social Engagement Levels	behaviours Seen (Mark what behaviours the child displayed)
Level 0 Little Interactions between parents No interaction between parents	
Level 1 One partner shows dominance Interaction is primarily to get needs meet Parent and child engage with equipment/ parallel play primarily	
Level 2 Joint attention/ focus on same activity Appears contrived Repetitive actions with toys, with no variation or little Parallel play Little shared eye gaze and expresses emotions, such as smiles	
Level 3 (Others are doing with the child) Intermittent shared eye gaze Small variation in actions are accepted Shared attention	

Anticipation of the next action

Connectiveness

Level 4

Frequent moment of shared eye gaze

Some joint attention

Respond and initiate emotion. Shares in parent's emotion

Parent and child look to each other to share emotions and information

Motivation to continue- (what creates the motivation)

Level 5

Sustained, enjoyable shared and joint attention

Continual, reciprocal serve and return

Productive uncertainty and opportunities for problem solving

Play is not rigid (activity changing and the child responding to the play)

Engagement to watch

Frequent moments (5+ times) of synchrony

Emotions are continually shared (occurring more than 4 times)

Appendix B

The Informational Parent Play Questionnaire (pre intervention version)

Full Name:

_____

Childs Name:

_____
_____

Date of visit: _____

DOB: **Date**: _____ **Months**: _____ Y**ears**: _____

Ethnicity: _____

Language spoken at home:

_____

Currently attending *School/ Preschool* **(circle one)**

Has support at either place: *Yes/ No*

Support services involved in the child's life:

_____

Formally diagnosed with ASD: Date_____

History of difficulty? Including any diagnoses, history of speech and language, motor, toileting etc**.**

_____
_____
_____

How do you feel playing and interacting with your child?

_____
_____
_____
_____
_____

Appendix C

The Extended Parent Play Questionnaire (post intervention version)

1. I am able to use a memory catchphrase,

Not seen ***Occasionally*** ***Appropriately used and implemented***

2. My Child engages in the memory catchphrase
   - ***Not at all***
   - ***After Repetition of Catchphrase***
   - ***Spontaneously engages***
   - ***Initiates catchphrase***

3. I am able to Incorporate a pattern into play,

No ***Occasionally*** ***I try often*** ***Lots (5+ times)***

4. I am able to vary a pattern in a timely manner,

No ***Occasionally*** ***I try often*** ***Lots (5+ times)***

5. The patterns I use have,
   - ***No Variation***
   - ***Small Variation***
   - ***Variation but not Maintained***
   - ***Variation Maintained***

6. My child's response to the pattern is,

Does not engage in the pattern ***Does not enjoy the pattern but engages,***

Appears to enjoy the pattern ***Fully engages***

7. My child's response to a change in a pattern is,
   - ***Get upset***
   - ***Disengage in new activity***
   - ***Embraces change/ new activity temporarily***
   - ***Embraces change/ new activity without returning to original***
   1. ***Establish a new activity after I have changed it (different from original)***

8. I am able to act as a guide,

No Occasionally I try often Lots (5+ times)

9. I am able to model to my child,

No Occasionally I try often Lots (5+ times)

10. I feel that my child responds to that model,

No Occasionally When it's done lots Fully Embraces the model

11. I am able to copy what my child is doing,

No Occasionally I try often Lots (5+ times)

12. I was able to practice my goals and new strategies,

Rarely daily weekly fortnightly

13. Out of 10 (1- not helpful and 10 being very helpful), how helpful did you feel reviewing the video with the coach was,

1 2 3 4 5 6 7 8 9 10

14. Out of 10 (1- not helpful and 10 being very helpful), I felt the coaching was,

1 2 3 4 5 6 7 8 9 10

15. ***How do you feel playing and interacting with your child?***

_____
_____
_____
_____
_____
_____

Appendix D

University of Canterbury Human Ethics Committee

HUMAN ETHICS COMMITTEE

Secretary, Rebecca Robinson
Telephone: +64 03 369 4588, Extn 94588
Email: human-ethics@canterbury.ac.nz

UNIVERSITY OF CANTERBURY
Te Whare Wānanga o Waitaha
CHRISTCHURCH NEW ZEALAND

Ref: HEC 2018/42

2 July 2018

Shaina Greenwood
Communication Disorders
UNIVERSITY OF CANTERBURY

Dear Shaina

The Human Ethics Committee advises that your research proposal "The Effectiveness of the Way-to-Play Training Programme in Supporting Interactions Between Caregivers and their Children with Autism" has been considered and approved.

Please note that this approval is subject to the incorporation of the amendments you have provided in your emails of 15 June 2018 and 27 June 2018.

Best wishes for your project.

Yours sincerely

pp. R. Robinson

Professor Jane Maidment
Chair
University of Canterbury Human Ethics Committee

Appendix E

Parent Consent Form

Department of Communication Disorders

Telephone: +64 22 076 0978

Email: Shaina.greenwood@pg.canterbury.ac.nz

July 2018

The Effectiveness of the Way-to-Play Training Programme in Supporting Interactions Between Caregivers and Their Children with Autism.

Information Sheet for Primary Caregivers

I have read and understood the description of the above described project. On this basis, I agree and understand the following:

- ☐ I have been given a full explanation of the project and have had the opportunity to ask questions.
- ☐ I understand that my participation in the study means that I will be asked
  - information about my child and his/her interests,
  - be observed playing together, four times, for of 20 minutes
  - Attend a 'Way to Play program'
  - Complete 3 X 1-hour, coaching sessions, at either my home or preferred location.
  - Complete two questionnaires, one following the initial observation and following the final observation.
  - Withdrawal date
- ☐ I understand that the three coaching sessions and four observation sessions will be video recorded and may ask for the recording to stop at any point.
- ☐ I consent to allowing the researcher to show any video clips during teaching or presentations relating to the study.

- ☐ I would like my face and my child's face to be obscured if the videos are used for teaching purposes and presentations.
- ☐ I consent/*I do not consent to the researcher showing any video clips taken for teaching and presentation purposes (*delete as appropriate)
- ☐ I understand that any information I provide will be kept confidential to the researcher and the published research or reported results will not identify me or my child through the information I provide.
- ☐ I understand that a thesis is a public document and will be available through the UC Library (no identifying information will be included in the thesis).
- ☐ I understand that all data collected for the study will be kept in locked and secure facilities and/or in password protected electronic form and will be destroyed after five years.
- ☐ I understand that my participation is voluntary, and I may withdraw at any time without penalty. Withdrawal of participation will also include the withdrawal of any information I have provided should this remain practically achievable.
- ☐ I understand the risks associated with taking part and how they will be managed.
- ☐ I understand that I can contact the researcher Shaina Greenwood at Shaina.greenwood@pg.canterbury.ac.nz or supervisor Dean Sutherland at dean.sutherland@canterbury.ac.nz for further information or ask questions about the study.
- ☐ I understand that if I have any complaints, I can contact the Chair of the University of Canterbury Human Ethics Committee, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz)
- ☐ I would like a summary of the results of the project.
- ☐ By signing below, I agree to participate in this research project.

Name:_____ Signed:_____ Date:_____

Email address:

_____

Please return the form to Shaina.greenwood@pg.canterbury.ac.nz

Appendix F

Child Information and Assent Form

Child Information and Assent Form

Picture found in Word Clip Art

The Effectiveness of the Way-to-Play Training Programme in Supporting Interactions Between Caregivers and Their Children with Autism.

You and your parent have been invited to help with a look at how they play with their kids, just like you. I am wanting to see if I can help parent playing with kids after they learn and practice some new play activities. This does not mean that you need to change the way that you play with your parent, just play how you normally would.

First, one or two people will visit with your parent to see how they are playing with you four times. Later on, they will come teach your parent how to play with you and sometimes these people might join an activity that you and your parent are doing. During the visits they will bring a video camera to record some of the play. If you don't want the video to be used, you can ask that the people to switch the camera off.

If you feel unhappy when the people come to watch you playing, you can ask them to go away and come back later.

The information we get during the visits will be written up in a report and will be read by people interested in learning about how to best play with children. But all the information, like your name, your parents' names, ages and anything else, will be kept secret.

Child Consent Form

Do you understand this study and are you willing to take part in it?

YES NO

Are you happy to take part in it?

YES NO

Do you understand that you can stop the study any time?

YES NO

I understand that one or two people will come to visit me and watch how my parent play with me. Sometimes, one of the visitors might play with me too.

YES NO

I understand that the visits will video recorded to see if the way my parent are playing with me changes. But if I don't want or like to be recorded, I understand that I may ask for the recording to stop.

YES NO

I understand that name, age and anything else the researchers know about me will be kept a secret and my name will be replaced with a number.

YES NO

Has the researcher answered all your questions?

YES NO

_____ _____

Signature of Child Date

Appendix G

Information Sheet

Department of Communication Disorders

Telephone: +64 22 076 0978

Email: Shaina.greenwood@pg.canterbury.ac.nz

July 2018

The Effectiveness of the Way-to-Play Training Programme in Supporting Interactions Between Parents and their Children with Autism.

Information Sheet for Parents/ Primary Caregivers

My name is Shaina Greenwood and I am undertaking a project as part of a Master of Science, in Speech and Language Sciences. You are invited to participate in the project The Effectiveness of the Way-to-Play Training Programme in Supporting Interactions Between Parents and their Children with Autism.

The aim of this project is to determine whether the Way to Play programme is effective in supporting play interactions between a parent and children with Autism Spectrum Disorder. The project will also evaluate whether your perspectives on interactions with your child have changed as a result of attending the Way to Play program and two coaching session.

As a thank you for taking time to participate in the study, the Way-to-Play program will be free to attend.

If you choose to participate in this project, you will be asked to –

- Attend the one-day Way to Play program, offered by Autism New Zealand
- Be observed playing with your child (4 x 20 minutes each), three times before and once after attending a Way to Play program.

- Participate in three follow-up coaching sessions, which will begin within two weeks of attending the Way-to-Play Program and will have fortnightly meetings following this.
- Participation in the study will not be required past the 21st September 2018.
- You are able to withdraw from the project at any stage; however, withdrawal of information can only be achieved before the 1st of September 2018.

You will be asked complete a survey following the initial play observation and after the final play observation. The survey will take approximately 30-40 minutes to complete.

Each observation and coaching session will be video recorded, this will be used as a form of coaching, which you and the Way to Play coach will review together. It will also be used as a form of identifying any changes in the interactions between yourself and the child over the course of the study. Only the primary researcher and her supervisor will have access to view this recording, unless permission is specifically given, for teaching and presentation purposes.

The results of the project may be published, but you may be assured of the complete confidentiality of data gathered in this investigation. To ensure confidentiality, within the survey and coaching sessions, no specific identifying information will be including in the published work, this includes any postal addresses, names and other personal information that may be shared during these times. Your returned survey will be allocated a code to ensure further confidentiality. Currently, no plans exist for the future use of this data. The results from the study will be published in a thesis and will therefore be accessed via the University of Canterbury library.

You have the right to withdraw from the project. Withdrawal of information can only be done as far as it practically achievable before the 1st of September 2018.

Please indicate to the researcher on the consent form if you would like to receive a copy of the summary of results of the project.

This research is being undertaken by me, Shaina Greenwood (shaina.greewood@pg.canterbury.ac.nz) and supervised by Dr Dean Sutherland (dean.sutherland@canterbury.ac.nz 03-960-5090). We will be pleased to discuss any question you have about participation in the project.

This project has been reviewed and approved by the University of Canterbury Human Ethics Committee. If you have any complaints please address these to The Chair, Human Ethics Committee, University of Canterbury, Private Bag 4800, Christchurch (human-ethics@canterbury.ac.nz).

If you agree to participate in the study, you are asked to complete the consent form and pass to me or email it to me at Shaina.greenwood@pg.canterbury.ac.nz.

Sincerely,

Shaina Greenwood

MSc Student- Department of Communication Disorders

Appendix H

'Way to Play' Coaches and Facilitators and Second marker Confidentiality Agreement

Department of Communication Disorders

Telephone: +64 22 076 0978

Email: Shaina.greenwood@pg.canterbury.ac.nz

May 2018

'WAY TO PLAY' COACHES AND SECOND MARKER CONFIDENTIALITY AGREEMENT

Thank you for your participation in the research project **The Effectiveness of the Way-to-Play Training Programme in Supporting Interactions Between Caregivers and Their Children with Autism.** Protecting the confidentiality of the research participants is essential and you are therefore asked to sign the following confidentiality agreement.

I, _____, agree to maintain full confidentiality in regard to any and all verbal information and audio recordings received or discussed with the research team for the above project. Furthermore, I agree:

1. To hold in strictest confidence the identity of the participants and the content of any discussion that may be revealed during discussions about the study.

I am aware that I can be held legally responsible for any breach of this confidentiality agreement, and for any harm incurred by individuals if I disclose identifiable information.

Name (printed) _____

Signature _____

Date _____

Appendix I

Way-to-Play Programme Outline of Programme and Taught Strategies

Found in the Autism NZ Way-to-Play Handbook (2017), the following outlines the Outline of Programme and Taught Strategies.

- Play, the Importance and Challenges
    - Lecture with Slides, Illustrations
- Strategy 1: Pattern, Memory and Variation
    - Lecture with Slides, Illustrations, Videos and Discussions
    - Strategies: Pattern is where a parent establishes a mutually enjoyable pattern, such as holding your arms up and moving your fingers and attaching a catchphrase with it, for example, tickles. This is then established as a memory for the child. Once the pattern is familiar to the child, slight variations can be added which supports flexibility.
- Strategy 2: Being the Guide- Make Yourself Interesting
    - Lecture with Slides, Illustrations, Videos and Discussions
    - Strategy: being a guide consists of modeling and prompting the child during situations that are unfamiliar to the child and/or supporting them with the desired behaviour. Making yourself interesting consists of parents getting down to the child's level, framing your face with objects/toys and being extravagant intonation and facial expressions.
- Strategy 3: Playing More and More
    - Lecture with Slides, Illustrations, Videos and Discussions
    - Strategy: The strategy consisted of supporting parents with their ability to identify when during their day they can play with their child.
- Strategy 4: Playing with Toys and Pretend Play
    - Lecture with Slides, Illustrations and Videos
    - Strategy:
- Strategy 5: Using Everyday Activities
    - Lecture with Slides, Illustrations, Videos and Discussions
    - Strategy:
- Strategy 6: What your Child is Learning
    - Lecture with Slides, Illustrations, Videos and Discussions

Appendix J

Autism New Zealand Support

Hi Shaina and Dean,

Further to our discussions about the Way to Play programme and the proposed research project, I confirm Autism New Zealand and myself as a Way to Play facilitator and developer support this research. Autism NZ are willing to:

- Send information about the project to potential participants (who will then contact you directly for full study and consent information)
- Delivery of the Way to Play training course and follow-up coaching sessions with participants
- Availability for consultation and clarification of aspects of the training programme throughout the project

Kind regards,

Neil Stuart
National Education Manager
Autism New Zealand

t +64 220 900 509
e training@autismnz.org.nz
w autismnz.org.nz
a c/o Glowkids, 13 Coyle Street
Sandringham, Auckland

Autism New Zealand National Office

20 Sydney Street
Petone, Lower Hutt
Wellington 5012

P: 04 803 3501
F: 04 803 3502
W: autismnz.org.nz

PO Box 33481
Petone, Lower Hutt
Wellington 5046

Appendix K

Parent Treatment Fidelity Checklist

- ☐ The parents attended Way-to-Play Parent Training Programme.
- ☐ The parents received the Way-to-Play Parent Training Programme Manuel and supporting documentation (slides).
- ☐ The Way-to-Play Parent Training Programme facilitators/ coaches had the parent's details for confirmation of the coaching sessions.
- ☐ Parents received all scheduled coaching sessions with facilitators/ coaches
- ☐ Researcher to complete the Parenting Strategy Observation Schedule

Appendix L

Parenting Strategy Observation Schedule

1. Parents ability to use a memory catchphrase

Not seen ***Occasionally*** ***Appropriately used and implemented***

2. Child engages in memory catchphrase
   - ***Not at all***
   - ***After Repetition of Catchphrase***
   - ***Spontaneously engages***
   - ***Initiates catchphrase***

Frequency of the times a memory catchphrase was used: _____

3. Parents Ability to Incorporate a Pattern into Play

Not seen ***Occasionally*** ***Appropriately used and implemented***

Frequency of the times a pattern was used: _____

4. Parents Ability to Vary a Pattern in a timely manner
   - ***No Variation***
   - ***Small Variation***
   - ***Variation but not Maintained***
   - ***Variation Maintained***

Frequency of the times a varied pattern was used: _____

5. The child's response to the pattern is,
- ***Does not engage in the pattern***
- ***Does not enjoy the pattern but engages,***
- ***Appears to enjoy the pattern***
- ***Fully engages***

6. Child's response to a change in a pattern is,
   - ***Get upset***
   - ***Disengage in new activity***

- ***Embraces change/ new activity temporarily***
- ***Embraces change/ new activity without returning to original***

2. Establish a new activity after I have changed it (different from original)

7. Parents Acting as a Guide

Not seen ***Occasionally*** ***Appropriately used and implemented***

8. Parents Ability to Modelling

Not seen ***Occasionally*** ***Appropriately used and implemented***

9. Parents Ability to Copying

Not seen ***Occasionally*** ***Appropriately used and implemented***